

THE COMPARATIVE STUDY OF 'CONFLICT' AND 'EXPERIMENTAL NEUROSIS'¹

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I. INTRODUCTION

The first researches on 'experimental neurosis' are attributed to investigators in Pavlov's laboratory (9). The term was applied to behaviour abnormalities which, in the opinions of these observers, were analogous to the 'neuroses' in man. Under certain experimental conditions dogs, who hitherto had displayed the customary conditioned salivary responses, began to struggle, howl and tear at their harnesses and lost their differential responses to conditioned stimuli. This aberrant behaviour was not restricted to the experimental environment, but generalized to situations quite widely divorced from it (35).

In drawing attention to this unusual behaviour the Pavlovian Laboratories initiated a type of research which has received increasing attention during the succeeding years. This research has employed the advantages of the comparative method in attacks on its problems, using infra-human animals as its first subjects, but recently completing its phylogenetic approach by observations on man. To Pavlov: '... the decision, or the conditions favourable to a decision, of many important questions of etiology, the natural systematization, the mechanism and finally the treatment of neuroses in the human being lies in the hands of the animal experimenter' (37).

I shall be careful in using the term 'experimental neurosis' to place it in quotation marks and shall use as synonyms 'aberrant behaviour' and 'behaviour deviations'. The term 'experimental neurosis', as used in comparative research, has historical significance and serves purposes of convenience, but its use does not necessarily imply that the experimental and clinical varieties of 'neurosis' are the same. It may be defined operationally in terms of behaviour symptoms observed under certain organism-environment relationships which will be described shortly.

II. SYMPTOMS OF 'EXPERIMENTAL NEUROSIS'

The symptoms observed in subjects suffering from 'experimental neurosis' are most striking. Changes in level of general irritability and spontaneous activity occur, revealing individual differences which have led some researchers (9, 37) to attribute considerable significance to the 'constitution' of the individual as a determinant in susceptibility to 'experimental neurosis'. In Pavlov's opinion: '... Whether or not the animal breaks down and in what form depends upon the type of nervous system' (37).

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More readily observable are the abnormalities of motor reactions that characterize the 'neurotic' subject. Frequently 'phobic' responses occur in which the subject violently struggles to retreat as far as possible from a particular set of stimuli (9, 28). In other instances, the subject may revert to a type of response pattern which characterized his behaviour at a much earlier period in his life or in his reactions to the particular environmental conditions concerned—a form of 'regression' (10). We have recently observed this phenomenon in our laboratory during a study of negative transfer involving simple visual pattern discrimination. When the subjects were required to alter a well-established habit they attacked the situation by clinging to the apparatus, engaging in much vicarious trial-and-error, and developing position habits, all of which had been tried and discarded as ineffective during learning of the initial habit. In addition to 'phobic' responses and 'regressions', repeated head-tossing, tic-like movements, fixed posturing and other persistent, non-adaptive acts have been observed. Two researchers (14) have even reported the appearance of 'hallucinations'. When subjects were no longer punished for making responses which led to the satisfaction of a basic drive, in this case thirst, they were observed frequently to interrupt their goal-oriented behaviour before the drive was completely satisfied by actions reminiscent of the punishment period. They responded 'as if' the punishment were present.

Changes in social behaviour also occur. Some subjects become shy, solitary and readily surrender their food, drink, or place to other subjects (2). On the other hand, subjects may become most aggressive, kicking, biting and attacking other animate or inanimate objects which had previously been accepted or perhaps entirely ignored.

Physiological changes of temporary and persistent natures have been observed, autonomic symptoms being most apparent. Prolonged disturbances of respiration and disorders of heart action, the latter characterized by rapid and irregular pulse and by extreme sensitivity to conditioned and other stimulation, have been described (2, 9).

III. CONDITIONS INDUCING 'EXPERIMENTAL NEUROSIS'

Let us examine the experimental conditions giving rise to this rather impressive array of behaviour disorders. Certainly one condition common to the various experimental techniques employed has been the restraint of voluntary movements, either physically, as in the case of the Pavlovian harness, or in terms of the subject's set or past learning. The restraint need not be of a purely physical nature. '... Alternative responses may not be available because through habit the organism's activity is restricted to a definite response sequence' (17). This characteristic of situations producing aberrant behaviour has been verified experimentally by Anderson & Liddell (1), who found that subjects not 'confined' developed no abnormal symptoms.

Behaviour disorders have appeared in situations where certain perceptual-motor conditions played the dominant role. Pavlov's (37) analysis of the classical conditioning procedures for producing 'experimental neurosis' emphasize the importance of such conditions. The 'neurosis' may occur, first, when a usually weak conditioning stimulus is rapidly increased in strength; secondly, when a protracted inhibition, such as extensively delaying the reinforcement, is imposed; thirdly, when the subject is required to make a differentiation which taxes its perceptual capacities; and, fourthly, when painful stimuli are employed. Under all these conditions the subject must be motivated and restrained, but these variables are held reasonably constant while the perceptual conditions are being

varied. Other laboratories^(9, 23) have employed essentially similar conditions with the major difference that instrumental conditioned responses, such as lifting the foreleg to escape or avoid punishment, have in some instances been substituted for the classical salivary response.

Similar to, but methodologically distinct from, these conditioned response procedures are those techniques involving learning of a more complex perceptual-motor nature. Prof. Maier⁽²⁴⁾ has produced some of the most striking examples of aberrant behaviour in a visual-discrimination situation where the problem presented was insoluble. Again, the emphasis was upon the perceptual conditions of the situation. The subjects, in this case rats, were motivated to jump from a small platform, on which they were confined, against one of two doors in a panel before them. Under ordinary learning conditions a jump against the correct and unlocked door, marked in a particular manner, led to the reward. On the other hand, jumping to the incorrect and locked door meant bumping against the panel and falling into a net slung below. When the problem was made insoluble by locking and unlocking doors in a random manner the majority of subjects developed abnormal fixations which took the form of position or symbol stereotypes. These fixations were strikingly rigid and persistent when attempts were made to break them down. Subjects exhibiting such fixated behaviour frequently did not alter their responses sufficiently to learn how to meet a new and soluble problem, even after several hundred trials. This was quite a different pattern from that of subjects learning the same behaviour under normally motivated conditions, who in a short time altered their behaviour to conform with the requirements of the new problem.

At least one experimenter⁽⁵⁾ has observed the symptoms of 'experimental neurosis' in the spatial maze situation. The abnormal behaviour appeared when the subjects were required to alter a pattern of responses, which they had readily learned would take them to the food box, and substitute an alternative but equally short pattern. The symptoms developed despite the fact that punishment was never used and an error resulted in a delay of only a few seconds in reaching the food. The problem was that of substituting one perceptual-motor habit for another.

There is evidence that these perceptual-motor conditions may operate temporally as well as spatially^(16, 17). Many of the symptoms of 'experimental neurosis' were observed in a study⁽¹⁷⁾ of the behaviour of cats on the double alternation problem in the temporal maze. The solution of this problem required responses to temporal relations in the absence of differential spatial cues. The subject in question learned the problem to the accuracy of 90% correct responses during a test period of thirty trials. The behaviour deviations occurred when an attempt was made to determine whether or not the animal could achieve still higher accuracy and took the form of resistance to entering and attempts to escape from the apparatus, excessive urination at choice points, progressive breakdown in the accuracy of performance, and regression to a manner of responding which had appeared in early trials and had been discarded as ineffective in solving the problem. Similar observations have been made of abnormal behaviour induced in other species under the conditions of the temporal maze⁽¹⁶⁾.

Behaviour disorders have also appeared in situations in which the dominant role is played by motivational conditions^(14, 28, 29, 36). The general procedure has been to establish a response on the basis of reward training, and then to punish this same response before the reward could be obtained. In one series of such studies Dr Masserman⁽²⁸⁾ employed the

instrumental response of lifting the lid of a food box on presentation of a visual or auditory stimulus or combination of the two, which was followed by punishment in the form of electric shock or air blast before the food could be reached. Another researcher has reported observing symptoms of 'experimental neurosis' in the spatial maze situation, when, after learning to travel to the goal box for food, the subjects were punished by electric shock before the food could be consumed. The dominant conditions in these cases appear to be the presence of two opposing drives.

Superficially these sets of conditions may appear to be quite divergent, but closer examination reveals that they have one particular characteristic in common. In all situations the subject is faced with some variety of conflict under circumstances where escape from the conflictful situation is limited. The conflict is induced by a competition between incompatible response tendencies dependent upon the primary or acquired drives which the researcher has introduced into the experimental situation.

IV. 'CONFLICT BEHAVIOUR' IN HUMAN SUBJECTS

Most of the discussion so far has been concerned with research on infra-human subjects. What happens when man is exposed to conflict conditions? A typical sceptic of the comparative approach and its cross-population generalizations has phrased this question in another way (28):

Masserman, the cat man
Makes felines neurotic;
Are cat and human
Really asymptotic?

Clinical studies have suggested the very significant role which severe conflict plays in the so-called 'functional' disorders of human personality. There have also been several experimental studies of human behaviour in conflictful situations which, as far as they have gone, support the findings of research on infra-human animals. For example, one experimenter (18), using conditioning techniques, produced abnormal feeding difficulties in children, which he referred to as 'inhibitory effects', by delaying reinforcement of the conditioned stimulus. Other researchers (4) have demonstrated '... regression in constructiveness of play...' in children who were restrained from playing with toys which were visible but unobtainable. The regression took the form of 'restless actions', 'attempts to escape' from the play situation, 'substitute play' and marked 'changes in mood and emotional expression'. This typical 'frustration' situation has been classified by Lewin (20) under one of his '... three basic cases of conflict, so far as driving forces are concerned'. Other analyses, in terms of so-called 'field forces' (19), of further research observations of child behaviour have indicated the general conditions under which conflict and behaviour deviations may arise. The concept that neurotic behaviour is determined by incompatible field forces affecting an individual in a particular environment has been extended to the field of psychiatry (8).

The now-famous 'Zeigarnik effect' (21) may be interpreted as a conflict situation in which the conflicting elements are the set to complete a task and the effects of restraint from so doing. Under these conditions the elements of the uncompleted task are retained more accurately than those of a comparable completed task. Rosenzweig (38, 39) has elaborated on these conditions and has proposed a system of psychopathology based upon the

concept that neurotic and psychotic subjects show significantly less tolerance of conflictful situations than do normal subjects.

Several researches have been designed to study behaviour in relatively simple conflict situations where the effects of the conflict could be observed in the psycho-motor performance of the subjects. Barker⁽³⁾, using young boys as subjects, objectified his measures of conflict behaviour in terms of the movement of a lever toward one of two choices. On each trial the subject was instructed to move the lever toward the name of the one of two liquids he would prefer to drink. The solutions, ranging from orange juice to saturated salt solution, had been ranked in order of desirability by each subject prior to the experiment proper. The results indicated that there existed '...an inverse relationship between the time required to resolve a conflict and the "distance" between the alternatives in the preference series'. A similar relationship existed between the amount of 'vicarious trial and error' and 'distance' in the series. Conflicts between undesirable alternatives took a longer time for resolution than conflicts between desirable alternatives. Hovland & Sears⁽¹²⁾, studying conflict behaviour in simple manual motor situations, also obtained results which are consistent with those already described.

Recently a study of human subjects has been completed⁽²⁷⁾ which duplicated as exactly as possible the conflict conditions of a series of experiments on rats in which striking evidences of abnormal fixations were produced. The human subjects were first presented with a discrimination problem which had no solution, then they were required to establish a simple position habit. Errors in both phases of the study were followed by electric shocks. Protocols showed instances of aggression, regression, resignation and stereotyped fixations, all of which had been observed in the animal studies. Certain subjects reported that they '...felt constrained to continue the application of certain principles of choice although they knew them to be erroneous'⁽²⁷⁾. Similar results have been reported in other human studies employing the conflict conditions of the insoluble problem situation^(33, 34).

It appears, then, that under conditions of conflicting response tendencies, human subjects behave in a manner similar to the behaviour of infra-human subjects under similar conditions. Studies employing human subjects are limited by the nature of the research, which means that if these significant problems are to be attacked the comparative approach must be used. The fact that even our present superficial knowledge suggests a similarity between responses of infra-human animals and man in conflict situations is a healthy sign that principles established during research on the former may in fact be applicable to the latter.

V. THEORIES OF 'CONFLICT BEHAVIOUR' AND 'EXPERIMENTAL NEUROSIS'

Our inspection of the data of 'experimental neurosis' leads us to suspect that there are predictable relationships between certain types of conflictful situations and the development of abnormal behaviour deviations. What theoretical models have been designed to describe these relationships?

(1) *Pavlov's physiological theory*

Pavlov and his followers^(9, 35, 36, 37), although making their observations principally at a behaviour level, have couched their theory in physiological terms. Basic to this theory are two constructs—excitatory and inhibitory processes—which are assumed to have their locus in the cerebral cortex. These processes interact both spatially and temporally according to the principles of 'irradiation', 'induction', 'generalization' and 'concentration'.

Thus, '...choosing between stimuli, reacting to some and failing to react to others is accompanied by two opposed but in many ways similar cortical "processes"...' (9). 'Experimental neurosis' is induced as a result of the fundamental antithesis between those processes. In analysing the results of several experiments Pavlov⁽³⁵⁾ states: '...it is possible to assume from the above facts that the destruction of the normal relations occurred as a result of the collision between the excitatory and the inhibitory processes in certain difficult circumstances....'

Pavlov's theory has received severe criticism from physiologists regarding the difficulties of verifying his inferential constructs of excitatory and inhibitory processes. Certain aspects of the theory, such as the spatial and temporal characteristics of irradiation and the emphasis on conditioning as exclusively a cortical function, appear to be at odds with recent observations. Then, too, psychologists are tending more and more to feel that behaviour theories at the present state of psychological knowledge may more profitably be stated in terms of behaviour itself.

(2) *Masserman's system of 'psychobiologic principles'*

The possibility that the study of 'experimental neurosis' may contribute to an understanding of the etiology and treatment of neurosis in human beings has led to the development of several theoretical models formulated in behaviour terms. One of these has been proposed by a psychiatrist interested, as he puts it, in 'An experimental psychoanalytic approach to psychobiologic principles' (28, 29). Dr Masserman⁽²⁸⁾ has proposed four 'fundamental' principles of behaviour. First, the 'principle of motivation' states '...that all behaviour is fundamentally motivated by the physiologic requirements of the organism....' Secondly, the 'principles of the adaptive nature of behaviour' declare that '...Behaviour is contingent upon, and adaptive to, the *meanings* of the "objective" and social environment as interpreted by the individual organism.' Thirdly, the 'principles of substitutive or symbolic behaviour' hold '...that behaviour is not necessarily a direct fulfilment of elemental biologic needs but, especially under circumstances of partial frustration, may take the form of symbolic expression and substitutive satisfactions.' And, fourthly, the 'principle of the vicissitudes of behaviour', which is most directly concerned with our present discussion, states that '...When psychobiologic motivations or environmental meanings become excessively confused or conflictful, behaviour correspondingly becomes abnormally indecisive, substitutive, diffusely symbolic, and biologically inefficient, i.e. "neurotic" or "psychotic" in expression.'

I believe that, once semantic difficulties are eliminated, most psychologists would find little to quarrel with in these qualitatively descriptive principles. Masserman's experiments in attempting to verify these principles employ the conditions of 'motivational conflict' described earlier, and provide evidence which is also of a qualitatively descriptive nature. The very general character of these formulations is reflected in the clinical applications which Masserman makes of them, for they serve the main purpose of directing attention toward the alleviation of motivational conflict by methods which do not necessarily follow from the principles themselves.

(3) *Miller's behaviour theory*

Those who find greater satisfaction in models of a more specific and quantitative level will appreciate Miller's⁽³¹⁾ formulation based upon general concepts of learning theory and

presented in the systematic style now associated in psychology with Prof. Hull. Miller's theory '... is concerned with the principles or laws of conflict behaviour' (31). Our cursory examination of conditions producing behaviour deviations suggested that the common element in all was a conflict induced by competition between mutually exclusive responses. Miller's goal is to analyse this competition and state its basic characteristics in terms which are quantitatively verifiable and from which specific predictions may be made.

The experimental work arising from this analysis has been concerned with relatively simple examples of the system, involving particularly spatial approach and avoidance. Four assumptions, basic to the understanding of these examples, have been verified experimentally (31).

(1) 'The tendency to approach a goal is stronger the nearer the subject is to it.' ('Approach-gradient.')

(2) 'The tendency to go away from a place or object avoided is stronger the nearer the subject is to it.' ('Avoidance-gradient.')

(3) 'The strength of avoidance increases more rapidly with nearness than does that of approach.'

(4) 'The strength of the tendencies to approach or avoid varies with the strength of the drive upon which they are based.'

These principles describe approach and avoidance tendencies functioning independently, but we are more concerned with situations in which competition exists between two tendencies operating simultaneously.

One such situation might consist of an approach-avoidance competition. This is the situation faced by the timid husband who wants to join his friends at the 'local' but fears the repercussions when his wife discovers his boldness. Through past experience tendencies both to approach and to avoid the same goal have been established. Conflict will appear under these conditions when the two tendencies are of such strengths as to intersect, an occurrence which can be predicted from the fact that the strength of the avoidance gradient increases more rapidly with nearness to the goal than does that of approach. What behaviour would occur in such a situation? At some distance from the goal, where the approach tendency is stronger than the avoidance, the subject should move toward the goal. The momentum of this approach would be expected to carry him somewhat beyond the point of intersection of the two gradients, but here the avoidance tendency is stronger than the approach, so our hypothetical subject would stop and start a retreat. This retreat eventually would be halted by the increasing strength of the approach-tendency and the subject should continue to vacillate around the point of intersection of the two gradients until the situation is changed by some new condition. Interestingly enough these deductions are confirmed when the behaviour of rats in a simple approach-avoidance conflict situation is observed and measured (31).

Competition of an avoidance-avoidance type may also occur. This is the situation of the patriotic soldier who must choose between advance in the fear of grave personal danger or retreat to the social ridicule of cowardice. He is forced to choose one of two undesirable alternatives. Volumes have been written on what can happen under these circumstances. According to Miller's model what should happen? Providing there is no third solution of the conflict, the subject should retreat from the nearest alternative until it becomes weaker and the second alternative relatively stronger, when a reverse in the direction of retreat should occur. Under such conditions the subject would be expected to vacillate in conflict

until the conditions of competition are altered. Miller⁽³¹⁾ presents a number of relevant experiments, all tending to support these deductions.

A third variety of competition between response tendencies may occur when an individual must choose between two equally desirable goals—approach-approach competition. This is the situation of the youngster who is faced with a choice between two extremely delectable sweets. Contrary to the classical fable the youngster should not starve to death in conflict, for, unless the approach tendencies are of exactly equivalent strength—a truly unlikely circumstance—the child will move toward one goal and as he approaches it will alter the relative strength of the two approach tendencies in a direction which encourages him to continue his present response. Under such conditions conflict would not be expected to occur.

The prediction that competition of the approach-approach variety is solved rapidly with no signs of conflict is not substantiated in all experiments or in all life situations. Miller⁽³¹⁾ suggests the possibility that in some instances '...the goals may not be completely desirable, so that tendencies to avoid (concealed by still stronger tendencies to approach) are brought into the choice situation'. Not satisfied with an answer at this level one of his collaborators⁽³¹⁾ designed an experiment which tended to indicate that: '...choices between desirable alternatives were often complicated by the necessity of relinquishing one goal in order to achieve the other. Often an unwillingness to relinquish either goal seemed to induce a tendency to avoid a definite commitment to one of them. The subject had tendencies both to approach and avoid each goal.' Under such conditions of double approach-avoidance competition conflict may arise.

In our considerations so far we have dealt with situations in which the subject is restricted to making only the competing responses. When he is not so limited he may make some third response which takes him 'out of the field' of the conflict-substitutive behaviour. The nature of the particular response made will depend upon the 'hierarchy' of habits which the subject has established as a result of previous experience in the present or similar conflict situations.

This is the essence of Miller's behaviour theory. It appeals to many because it offers the rudiments of a quantitative approach to the study of conflict behaviour. Response tendencies, at least at a simple level, can be measured. They may be studied systematically as functions of such variables as strength of drive and the stimulus conditions under which they occur, and curves may be plotted revealing the nature of these relationships. Specific predictions from the principles, describing their operation, may be tested with some precision. However, final decisions concerning the adequacy of this model must await much more extensive tests.

(4) *Lewin's 'field theory'*

Lewin^(19, 20) has designed his model in terms of vector mathematics and topological geometry. 'Conflict is defined psychologically as the opposition of approximately equally strong field forces' ⁽²⁰⁾. Analysing conditions under which field forces may be in opposition Lewin arrives at three 'basic cases of conflict' which are directly analogous to Miller's types of competition between response tendencies. In case 1 the subject '...stands between two positive valences'. As in approach-approach competition, this type of conflict usually is resolved with relative ease. However, 'As a result of the fact that after the choice is made the goal chosen often seems inferior...oscillation does sometimes occur,' a con-

tendency covered by Miller's double approach-avoidance competition. In case 2 the subject '...faces something that has simultaneously both a positive and a negative valence'—approach-avoidance competition. The typical 'frustration' experiment is taken to represent a special instance of this case. In case 3 a conflict occurs when the subject '...stands between two negative valences' and has all the characteristics of Miller's avoidance-avoidance competition.

Basically the models by Lewin and Miller are similar. They differ in the mathematics selected to fit the types of data with which each author deals. The differences in mathematical systems selected in turn reflect differences in fundamental behaviour theory to which the two researchers subscribe, Miller favouring a stimulus-response reinforcement theory and Lewin a modified Gestalt theory.

(5) *Maier's theory of 'frustration-instigated' behaviour*

From a most intensive series of studies of abnormal behaviour fixations Maier (24, 25) has proposed a theory of 'frustration-instigated' behaviour. The conditions under which these abnormal fixations occur were described previously. They consist of forcing the subject to respond to an insoluble visual discrimination problem when the situation sharply limits the available responses. Maier believes that behaviour developed under these conditions cannot be accounted for by the usual concepts of motivation-induced or goal-oriented learning. He interprets his experimental findings as demonstrating: '...that behaviour elicited during a state of frustration has certain unique properties, and that these properties make frustration-induced behaviour different in kind from that produced in a motivated state' (24).

This qualitative distinction becomes even more apparent when the modifiability of abnormal fixations is studied in detail. In groups of rat and human subjects showing fixations, bimodal distribution curves with only slight overlap were discovered when the numbers of trials taken to learn a soluble problem were plotted. 'A condition of frustration within the individual... (is)... assumed to be the factor that split the population' (24).

In Maier's model, then, the symptomatic behaviour of 'experimental neurosis' is induced by conflict and is qualitatively distinct from other forms of learned behaviour. The extent to which these behaviour deviations are functions of the conflict situation and/or of the individual is not clear. This is also true as regards the influence of the nature of the situation on the type of aberrant behaviour expressed, although Maier does advance the rather vague hypothesis that the response fixated is one that is highly available to the subject.

It is clear that these models need further elaboration to fit all the major facts of 'conflict behaviour' and 'experimental neurosis'. They are in need of vigorous empirical verification, and critical experiments must be designed if one model is to be selected over all others. They are in much the same position as other 'systems' in psychology, of which B. A. Farrell⁽⁷⁾ in last year's symposium of the Aristotelian Society on 'Causal Laws in Psychology' said: 'The scientific function... of these theories is largely exploratory. They organize the empirical data available at the time, they direct empirical work in the way indicated, they draw attention to various theoretical possibilities and so do a lot of the theoretical spade-work preparatory to theory construction in the grand manner... which may perhaps become appropriate at some distant date.'

All the models accept the principle that behaviour deviations of the 'experimental neurosis' type arise under conditions of conflict, although they differ in the level—physiological or behavioural—at which they are pitched. Two of the models, Pavlov's and Masserman's, provide no means of predicting the nature of behaviour deviations arising under conflict. The other three do provide predictions, which at the present time have been tested only under quite limited experimental conditions, although suggestions have been made as to how the principles might apply over rather wide areas of behaviour. Another important function of models in this area is to suggest means by which the behaviour deviation, once established, can be altered. Some of such 'therapeutic' procedures have been put to experimental test.

VI. THERAPY IN 'EXPERIMENTAL NEUROSIS'

Therapy of behaviour deviations involves either changing the individual's environment or his reactions to the environment. Since an individual's 'environment', psychodynamically speaking, depends upon his own perception of physical objects and events surrounding him, this usually boils down to a treatment of the individual himself. Classically such treatment has involved altering the individual's physiological or neurological functions, e.g. electro-convulsive shock therapy and pre-frontal leucotomy, or retraining his behaviour patterns along socially desirable lines, e.g. psychotherapy. The procedure selected depends in any case upon some assumptions, vague though they may be, of the etiology and fundamental nature of the behaviour disorder.

As would be anticipated, Pavlov's theory led to a search for means of altering the subject's physiology for the treatment of its 'neurotic' behaviour. Pavlov⁽³⁷⁾ observed that bromides 'cured' acute 'experimental neurosis' in certain dogs in a few days. He attributed the action of these drugs to a specific 'weakening' or 'reversal' of the cortical-inhibitory process. Other laboratories have reported similar effects following the administration of hypnotics, such as amytal and nembutal⁽⁶⁾. Other pharmacological treatments have been tried with only temporary benefits at best. Cortin was found⁽²²⁾ to diminish motor hyperactivity in 'neurotic' sheep, but had no significant effects on dogs suffering with similar behaviour symptoms⁽⁹⁾. Alcohol showed some temporary effect in relieving tensions, which did not continue however more than a few days after administration⁽⁹⁾. Metrazol was used to induce convulsions in another unsuccessful attempt to apply therapy at a physiological level⁽²⁴⁾.

On the other hand, the behaviour theories of 'experimental neurosis' have emphasized quite different attacks on the problem of therapy, and the authors of two of these theories have reported empirical results of their methods of attack to date. Masserman's⁽²⁸⁾ 'psychobiologic principles' have canalized his experimental studies mainly toward the relief of 'motivational conflicts'. Rest alone, even for extended periods, proved generally ineffective in relieving 'neurotic' symptoms. Only active attacks on the conditions of the conflict produced significant results. These procedures took the following forms. First, in decreasing the intensity of one of the conflictful drives by manually or even forcibly feeding the animal just before placing it in the conflict situation, a noticeable decrease in intensity of the symptoms occurred. Secondly, by petting and gentle hand-feeding, ('transference' to our psychoanalytically-oriented friends), the animal could be retrained to make the original instrumental response in the conflict situation with an eventual elimination of other associated 'neurotic' symptoms. Thirdly, by manipulating the

environment in such a way as to force the animal at the height of its hunger drive into the vicinity of the avoided stimulus objects, normal responses gradually returned. Fourthly, by placing the 'neurotic' animal in the conflict situation with another trained but 'non-neurotic' animal the abnormal symptoms began to disappear, but the remission was very unstable, particularly when the second animal was removed. Fifthly, animals who were trained to control the presentation of the feeding signals and the food reward learned to 'work through' their conflicts.

Maier's approach to therapy, in the light of his theory of frustration-instigated behaviour, assumes that the aberrant behaviour is qualitatively distinct from learned behaviour, and, therefore, cannot be altered by conventional retraining procedures. In this connexion one series of his investigations⁽²⁶⁾ was designed to determine the effects of vacation from the conflict situation and of systematically varying the situation itself. Subjects were tested for the persistence of fixations throughout a programme consisting of a number of phases including a vacation, a symbol-reward learning period, an exposure to a single-door problem, an exposure to a mixed series of all these conditions plus the original conflict situation, and, a test period during which the subjects were given metrazol injections. Throughout this determined attempt to alter their behaviour the subjects stubbornly continued their abnormal fixations. The one procedure which Maier has found to be surprisingly effective in altering fixations is a form of guidance or directive therapy. The experimenter guides the animal in making the correct responses, preventing it from approaching the position or symbol to which the fixated behaviour is attached. Very few trials are necessary to alter fixations when this procedure is employed.

VII. DIRECTION OF FUTURE RESEARCH

Where has the comparative study of 'experimental neurosis' led us to date? Certainly not nearly as far as we would like to go, but the start looks promising. The future undoubtedly will see developments in the following directions.

Perhaps most important of all at the present time are the problems of theory construction and validation. Present theories must be expanded and revised or new theories developed to describe the facts of 'experimental neurosis' already known. These theories, or deductions from them, must then be validated in well-designed research projects. Systematic theory-construction should have the effect of organizing this area of knowledge which is at present most diffuse. Furthermore, bringing these theories out into the open rather than vaguely assuming their existence will make it possible to attack the problems of etiology and therapy in a rational manner rather than in the style of a hit-and-miss, purely empirical approach.

A second direction for development involves the quantification of the various manifestations of 'experimental neurosis'. Some attempts have been made in this direction already, although a reviewer of the research literature cannot help but be impressed with the frequency with which conclusions are substantiated only by case-history reports. The application of good scientific procedure requires some scale for measuring dependent variables—in this case, the aberrant behaviour. Only with suitable measuring instruments available would it be possible to attack problems in other phases of this programme and to answer questions concerning the general or specific nature of susceptibility to 'experimental neurosis'.

Further studies should be made of the etiology of these behaviour disorders. The studies

should include logical and experimental analyses of conditions contributing to the development of 'neurosis' at as many levels of complexity in behaviour as possible. Systematic variations of organismic and environmental variables, when reflected quantitatively in the subjects' responses, should furnish most valuable clues in the search for fundamental conditions under which behaviour deviations are induced.

Systematic studies of the genetics of 'experimental neurosis' should be undertaken. Certainly the emphasis in the literature on the role played by the individual's 'constitution' in the development of aberrant behaviour and Maier's bimodal distribution of fixation rigidity suggests the possible influences of hereditary factors. It should prove profitable to employ principles of selective breeding in empirical attempts to separate individuals with varying degrees of susceptibility to breakdown in conflictful situations. Inbreeding individuals at either extremes of the susceptibility continuum might result in the development of two distinct populations, as has occurred in similar studies of 'emotionality', 'wildness' and 'maze intelligence'. These populations would be most valuable for further research purposes. By carefully controlled breeding it might be possible to apply some of the interesting techniques of biometrical genetics proposed by Mather⁽³⁰⁾ and others.

The influences of alterations in the subject's internal and external environment at various stages during his ontogenesis deserve attention. The interesting work of Hunt and his collaborators^(13, 15) suggests that such factors as infant-feeding frustrations may have measurable effects much later in the individual's life history.

Comparisons of various physiological and neurological characteristics of susceptible and resistant subjects might provide important clues to the role played by the machinery of the body in the development of 'experimental neurosis'. Such comparisons could be made at many levels. Certainly it would pay to search for differences in processes which appear most likely to be involved, such as the secretion of adreno-cortico-hormone and 17-keto-steroids under stress conditions⁽¹¹⁾.

Finally, advances should be made in the systematic study of the effectiveness of various forms of therapy. I have already expressed the opinion that these therapies should be derived from some stated theoretical model whose validity has been tested. It should be possible to standardize procedures for determining the effectiveness of various treatments as has been done in other areas of therapy.

In suggesting the directions which future research may take, I have implied my personal evaluation of the present status of comparative research on aberrant behaviour. I expect much more work to be done on problems in this field, and I predict a challenging future for those who become interested in the comparative study of 'conflict' and 'experimental neurosis'.

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THE EFFECT OF NAMES AND TITLES UPON THE SERIAL REPRODUCTION OF PICTORIAL AND VERBAL MATERIAL

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I. INTRODUCTION

In his experiments with the Method of Serial Reproduction which were designed to imitate the person-to-person transmission of pictorial forms, stories and so on, within and between social groups, Bartlett⁽¹⁾ used both pictorial and verbal material as the originals for his series.

With the pictorial material he observed a general tendency for unfamiliar features of the original to become familiar and conventionalized. For example, in a series entitled 'Portrait d'homme' (pp. 178–9), the original drawing shown above this title had very little resemblance to a conventional man's face, although this, in view of the title, was the obvious interpretation put upon it. As the series progressed the unfamiliar features were altered until the drawing became a recognizable and conventional representation. In this series, although no emphasis in the instructions was laid upon it, the title itself was reproduced in every case, but was changed first to 'Portrait d'un homme', and later to 'Un homme Egyptien'.

With regard to the effect that the title might have had upon the series, Bartlett said: 'No doubt the name given had a good deal to do with the form reproduced...' (p. 179). Although the title was itself foreign, and unconventional, it would certainly appear to have given a general direction in which the process of conventionalization should take place. It enabled the subject, who made the first reproduction of the series, to discover a familiar frame of reference, a man's face, for what might otherwise have been very variously interpreted.

Bartlett had elsewhere observed (in his experiments on perceiving) that the naming of a figure was a very common reaction on the part of his subjects, where no verbal setting was experimentally provided. Either the whole drawing was named, and then the reproduction showed assimilation to the conventional object name, or it was named piecemeal in an analytic way. Where, then, no verbal setting is provided the subject must make his own interpretation, which is likely to depend upon his habitual modes of perception, upon whether he prefers to analyse accurately, in what Wulf⁽⁵⁾ termed an isolative way, or whether he prefers to name the whole, in what the same author termed a comprehensive way.

While we shall, in the experiments to be described, mainly be concerned in determining what effect the names or titles provided for drawings or verbal passages have upon the reproductions made, it is clear from Bartlett's general observations, as well as from those of Wulf, that the process of fitting the material to a verbal setting may be complex and the individual variation considerable. From Wulf's results, it seems probable that

certain of the Gestalt tendencies, such as tendency towards simplification and regularization, may also be observed.

As with pictorial material, so with verbal, Bartlett concluded that the titles heading the descriptive passages or stories provided the setting in relation to which they were assimilated and remembered. In this way, he said, such a setting enabled the subject the more easily to deal with the specific material of the text, and gave him a basis for interpretation of its meaning. Such a setting was, however, peculiarly mutable, likely to be taken for granted and therefore not passed on in definite verbal form, but the omission of it, in the Method of Serial Reproduction, might initiate and bring about very great changes in the material remembered.

Bartlett appears to have been the first person to draw attention in experimental work to the function of such verbal settings in the perceiving and remembering of verbal material. The analogy of the name given to pictorial representations and the title given to a passage of prose is obviously very close. In both cases, with both sorts of material, the setting may be taken for granted and omitted. In both cases where no verbal setting is provided, the subject is likely to find one for himself, to give the figure a name or to discover the theme or central item of the paragraph. Further, the relation of title to text, as of name to object, is complex and must clearly depend upon individual factors in the ability of the subject to abstract the meaning, as well as on the appropriateness of the title itself as a setting.

Finally, with regard to verbal material, one recent experiment is relevant, that of Tresselt & Spragg⁽⁴⁾, who used one of Bartlett's original passages entitled 'The Boy who tried to outwit his father'. The results appear to have been very similar to Bartlett's own, the changes being classifiable under headings such as simplification, rationalization, etc. The authors, however, prefer to interpret the change of the unfamiliar to something more familiar in terms of Wulf's 'levelling' and 'sharpening' which he observed in the reproductions of simple designs, and which he classed as 'normalizing'. A second part to this experiment was carried out in order to observe what effect a 'mental set' provided by the previous reading of another verbal passage might have upon reproductions of a second passage, but in neither part of the experiment was the possible effect of the accompanying title assessed.

It is therefore the purpose of the three experiments described below to control the possible effect of the title and to prove or disprove Bartlett's assumptions with regard to the name or title function in Serial Reproductions of both pictorial and verbal material. We can therefore summarize our main hypotheses as follows:

(1) Where the original drawing of a series is accompanied by a name or title, and this title is itself assigned to all the reproductions of the series, it may serve to direct the conventionalization of the original. The name here may act as a specific determinant of the general process of conventionalization.

(2) Where a title to a story or other verbal passage is perceived to be appropriate as a setting for that story, the assimilation of the text itself and its recall is likely to be made in relation to this title, provided, of course, as for the pictorial material, the title is retained throughout the series.

(3) Where there is no name for the drawings and no title for the verbal passages, individual variation in reaction to the material is likely to take place, so that the process of conventionalization will be much more random.

II. GENERAL METHOD AND PROCEDURE

In the experiments carried out two types of pictorial material were used. For Exp. I, the originals of the series consisted of accurate drawings of familiar animals, the outlines of which surrounded a number of stars, so that the whole figure was designed to represent a constellation sign. For the second experiment, the drawings were simple, ambiguous geometrical forms.

The two experiments will be described separately, but the general method and procedure was the same for both. The Method of Serial Reproduction was used, and, for each experiment, three different drawings were made as originals for the series. Each drawing, which we can call A, B and C respectively, was presented in three different settings, so that the comparative effect of two verbal titles and no title could be observed upon the reproductions made from the same original. For example, drawing A was presented with a verbal title 'Bird in flight' for one series, 'Envelope' title for a second series, and with no title for the third series. In this way, nine series of reproductions were obtained with each experiment.

The subjects who made the reproductions were all of university education, of various academic backgrounds, and of both sexes. Most of the subjects made a reproduction in each of three series, one in an A series, one in a B and one in a C, the interval between the three experimental sessions usually being at least 2 weeks. In this way, subject 'O' might make the first reproduction of drawing A, with the title 'Bird in flight', 2 weeks later the tenth reproduction of drawing B with its title 'Envelope', and, finally, after a further 2 weeks, the fifth reproduction of the C drawing with no title to it.

Each of the three drawings, therefore, had series of reproductions made from them by three different groups of subjects, with three different settings for each, as shown in the table below:

Table 1

Drawing	Series	Setting	Reproductions made by Subject Group
A	1	Specific title	I
	2	Common title	II
	3	No title	III
B	1	Specific title	II
	2	Common title	III
	3	No title	I
C	1	Specific title	III
	2	Common title	I
	3	No title	II

Of the two titles given to each drawing, one was specific to the drawing, while the other was a title common to each of the three drawings, as for example, 'Envelope' was the common title for A, B and C, while 'Bird in flight' was given only to A. The titles were retained as settings throughout the whole of a series, so that where one was omitted by a subject in his reproduction it was reinserted beneath this reproduction before it was passed to the next subject.

The procedure was that normally used with the Method of Serial Reproduction. The original drawing, which was made in black ink on a plain white card, was shown to the subject for 15 sec. in the case of the more complex material of the first experiments, and for 10 sec. in Exp. II where simple geometrical designs were used. The subject was told: 'I am going to show you a drawing on this card. I want you to look at it for 15 (10) sec.,

and then to reproduce on this card what you saw.' The cards used for the reproductions were the same size as those on which the originals were made. The instructions were invariably the same, whether the drawing had a title under it or not. After the subject had made his reproduction, he was asked: 'What did you think the drawing was like?' And, where a title was shown underneath the drawing: 'Did you think the drawing had any resemblance to its title?' The series were continued until it seemed probable that no further changes of importance would take place.

III. EXPERIMENT I. ANIMAL-CONSTELLATION DRAWINGS

In Table 2 are given the three settings with which each drawing was presented.

Table 2

Drawing	Series	Title
A	1	Dog
	2	Constellation
	3	No title
B	1	Goat
	2	Constellation
	3	No title
C	1	Lion
	2	Constellation
	3	No title

It was the particular purpose of this part of the experiment to observe how the two main components of the drawings, the animal outline, and the stars, would be altered in the reproductions, and how much difference in emphasis the various settings would exert.

Results. Experiment I

The 3A series

In Fig. 1 are given, together with the original drawing of the series, three examples of reproductions taken at approximately the same stages in each series. They show clearly the different course that the reproductions can take when accompanied by different settings. The numbers in the top right-hand corner of each drawing refer to its sequence in the series.

Each of these three series shows certain peculiarities that seem clearly due to the different setting. So, the title 'Dog', while producing no elaborations of any kind, appears to influence the general trend of the reproductions, so that a 'dog-like' animal is recognizable as far as the eighth reproduction, and some sort of four-legged animal up to the end of the series at R14. Comparison with the 'animals' reproduced in the other two series shows that the title has clearly had some directive effect, although not enough to prevent a general simplification of outline.

The second setting, the title 'Constellation', has had an equally marked effect as shown by the relative prominence of the 'stars', and the emergence of a 'ring' that may be due to some association with the planet Saturn. The animal part of the original becomes greatly oversimplified and much too symmetrical in final form to have any recognizable identity as an animal.

Finally, the third series, with no title, shows characteristics of both the other series, but is peculiar in that the 'stars' that are not omitted tend to move their position in the drawing very uncertainly from one end of the animal to the other.

A common feature of all three series is the progressive simplification of the drawings, by omission of detail, by regularization of lines and outlines, and by increase of symmetry. There is no general tendency to elaboration—only a few instances of detail elaboration, as in the tail-ring in series 2.

ORIGINAL



TITLE 'DOG'	TITLE 'CONSTELLATION'	NO TITLE
5. DOG	5. CONSTELLATION	5.
9. Dog	9. Constellation	9.
14. DOG	15. CONSTELLATION	18.

Fig. 1.

The titles therefore appear to have a definite and positive effect upon the general course of the reproductions, and the main differences between the three series may be attributed to the different settings of the drawings.

Although the reports of the subjects after making the reproductions may not be fully

indicative of their reactions when shown the drawings, it is clear that naming and counting played an important part in the individual's perception and recall, the more *analytical* tending to count accurately the number of 'stars', etc.; for example, in series A1, one subject 'noticed there were three stars and four diamonds—seven markings in all', reproducing these accurately in number but wrongly in actual position, while others tended to name the whole figure and ignore the small details.

The B and C series

Similar results are observed with the parallel series made from the B drawing ('Goat' Constellation sign) and the C drawing (of the 'Lion' Constellation). The same general tendencies are observed, such as omission of detail, simplification of outline and tendency to symmetry, but the title effect is complicated by more individual variations in attitude. In series C1, entitled 'Lion' and in the 'Constellation' series C2, both these titles appear to have had a directive effect similar to that of the A series in emphasizing the respective aspects of the drawing to which they refer, and, in the third series, it is again clear how the *lack* of title may lead to a gross and nonsensical distortion of the original.

With regard to the experiment as a whole, there is clear evidence from some of the series that the title may both influence the selection of detail that survives in the serial transmission and serve to alter the general direction of change.

Much of the change observed, however, is towards a simplification of outline and a greater symmetry of form, whether of detail such as the stars or markings, or of parts of the animal itself. The name does not serve to retain the specific characteristics of the animal concerned, but there is a generalization of the form inevitably connected with the simplification and tendency to symmetry.

Factors that may interfere with the title effect appear to be either the influence of previous series or a difference in perceptual attitude deriving probably from a more analytical approach to the task.

In conclusion, it appears that the name or title may have an important influence in directing the general trend of change, but that the relation of figure to verbal setting can be complicated by variations of individual interpretation and perceptual attitude.

IV. EXPERIMENT II. GEOMETRICAL DESIGNS

The three original drawings used, with their accompanying settings, are shown in Table 3.

Table 3

Drawing	Series number	Setting
A	1	Bird in flight
	2	Envelope
	3	No title
B	1	Window
	2	Envelope
	3	No title
C	1	Ship
	2	Envelope
	3	No title

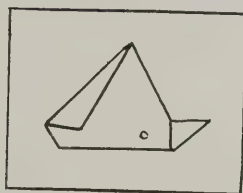
Each of the drawings was of about the same complexity, and the purpose of the experiment was the same as that of Exp. I, namely, to observe how the form of the original would vary in the reproductions under the influence of the different settings.

Results. Experiment II

If anything, the series using geometrical designs show even clearer trends of change than those of Exp. I. In Fig. 2 are shown examples of the title effect on the C drawing, as these three series illustrate well the general nature of the changes that may be brought about.

The 3C series

ORIGINAL



TITLE 'SHIP'	TITLE 'ENVELOPE'	NO TITLE
5. SHIP	5. ENVELOPE	5. SHIP
10. Ship	8. ENVELOPE	9. SHIP
15. SHIP	14. Envelope	14. SHIP

Fig. 2.

It will be observed that both title series show marked changes, the drawings developing very clearly, step by step, towards a form corresponding much more nearly than the original to a conventional representation of the title. Once a simple conventional form is achieved,

no further structural change of any sort takes place, and it is as though a firm balance had been struck between the demands of the title and of the general trends of simplification and regularity. It is in this respect that these series differ from other title series of this experiment.

The no-title series, on the other hand, never shows any consistent trend of conventionalization, but only of gradual simplification. Some of the subjects name the drawing shown them, but the figure becomes too simple and vague a geometrical pattern for a definite trend to be developed.

These three series, then, seem to show in the clearest and least complicated way the process of title-conventionalization operating cumulatively to eliminate the unconventional features of the original.

The A and B series

The series made from these drawings show very similar title effects to those illustrated by C above, but the A series in particular show what may happen when the verbal setting provided is much less directly relevant than, for instance, the 'Ship' title appears to have been. In Fig. 3 is shown the whole of series A1, as an illustration of how variably the title may act as a setting under certain conditions. The original title 'Bird in flight' was, of course, shown under each reproduction.

In R5 it will be seen that there is a definite 'movement' in the drawing, and the subject reported that 'the curve at the bottom looked like a wing, flying to the right of the card'. The sixth subject, however, rejected the title-suggestion, reporting that the figure looked 'more like a blacksmith's anvil', and the result is clear in the reproduction. This 'rejection' leads to a definite reversal away from the title-trend that had previously taken place, but again in the eleventh reproduction the title begins to have effect, although never leading to any clearly conventional form.

There is, therefore, no doubt that the verbal setting must, in relation to the structure of the original figure, have a certain minimum appropriateness for it to be effective. Otherwise, individual variations in susceptibility to the title influence will lead to just such reversals as are seen in this series, some subjects allowing themselves to follow the title, others rejecting it and forming their own independent judgement of what they are being shown.

The 3B series are much more straightforward, the titles leading to conventionalizations very similar to those of the C series, the results again demonstrating the importance of the titles as settings.

In considering the results of this experiment, as with Exp. I, it should be remembered that at no time was any direct reference made to the titles themselves. Such effects as we have noted are due only to the accumulation of changes spontaneously brought about by the mere presence of a title underneath the drawing. The reports of the subjects on their judgements of the various figures are often enlightening and it sometimes occurs that, even when a subject has overtly rejected the title-figure resemblance, there is, nevertheless unmistakable evidence from his reproduction that the title has acted as a background for his recall. Verbal rejection does not necessarily, therefore, imply that the title has had no perceptual influence.

In general the results with the geometrical designs show the nature and limits of the title effect more clearly than the results of the first experiment, where the material is mor-

complex. Simplification and a tendency towards greater symmetry are particularly noticeable, while the combination of this trend with the conceptual emphasis of the title is very striking in the 'Ship' series. It is necessary to emphasize, however, that the mutual

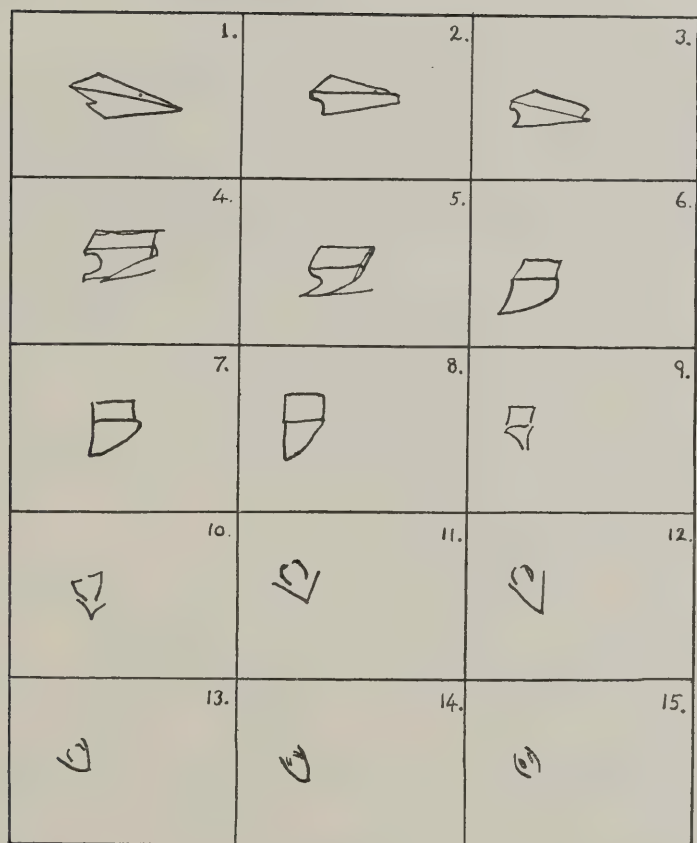
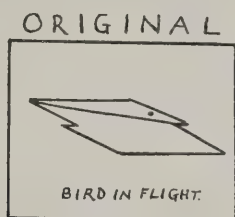


Fig. 3.

relationship of the figure to its verbal setting may be a precarious one, depending on the structural relevance of the material, and individual variations in judgement may often lead to an unconventional progression where such relevance is at a minimum.

V. EXPERIMENT III. VERBAL PASSAGES

The general method of this experiment was exactly the same as that used for Exps. I and II. Three passages of prose were selected as starting-points for the series, each of approximately the same length, and dealing with similar subject-matter. All three were selected from Sir J.G. Frazer's *The Golden Bough*, abridged version, 1923. Each of the original texts was presented in three different settings, two of which were verbal titles, as shown in Table 4.

Table 4

Text	Series	Title
A	1	The Wind-bringer
	2	Primitive Magic
	3	No title
B	1	The Rain-maker
	2	Primitive Magic
	3	No title
C	1	The Sunshine-maker
	2	Primitive Magic
	3	No title

Thus three series are made from each text, by three different subject-groups, the subjects being the same as took part in Exps. I and II. The texts were typed upon lined cards.

The procedure was as follows: the subject was told that he was going to be given a piece of prose to read, and was to read it through once only, at his normal reading speed. He was then to write down immediately what he could remember of it. Before his reproduction was passed on to the next subject, it was copied in type. When a subject omitted the title, it was reinserted in the typed copy, and, when a different title was made up by a subject, the original title was inserted in the typed copy above the new one. The series were continued until no further change of any importance seemed likely to occur.

Results. Experiment III

Many of the changes are very similar, as was expected, to those already noted in the two previous experiments with pictorial material.

Example 1 (from series A1 entitled 'The Wind-bringer')

The most noticeable change in this series in comparison with the reproductions from the same original that were made with the title 'Primitive Magic' and with no title, is that of the alteration in emphasis brought about in the first reproduction.

The original opening sentence is: 'Once more, the savage thinks he can make the wind to blow or to be still.'

Reproduction 1 begins as follows: 'In order to procure a cool breeze....'

The shift in emphasis appears clearly due to the title 'The Wind-bringer', so that the theme, as it were, of the piece, is pointed out emphatically in the beginning of the first reproduction.

A similar shift of emphasis, noted in the alteration of the word order, is found in the first reproduction of series B1, entitled 'The Rain-maker'.

Example 2 (from series B1 entitled 'The Rain-maker')

Original opening sentence: 'Among some tribes of North-Western Australia, the rain maker....'

Opening sentence of Reproduction 1: 'The rain-maker is important as a member of certain tribes of North-Western Australia.'

Once this change of emphasis, this pointing out of the theme, is achieved, it tends to remain stable throughout the remaining reproductions, which show a progressive omission of the other details of the original, leaving the theme-statement more or less intact throughout.

The other title used ('Primitive Magic') for the A2, B2 and C2 series, appears not to have been so effective or appropriate a setting, while in two of the 'No-title' series, there is a tendency for the first subject in the series to state his own theme at the beginning, by way of an organized summary or heading relevant to which the remaining details are recalled or omitted. For example, the first subject's generalization in his reproduction of the passage about the savage's wind-magic is as follows: 'Again, savages often think they are able to control natural phenomena.' This sentence then provides the setting for the whole of the remainder of the series, being reproduced more or less verbatim throughout.

Perhaps the most interesting feature of the verbal series is this shifting of emphasis and reorganization of the text that sometimes occurs. In some of the title series this shift is clearly due to the influence of the title, while, in the no-title series just quoted, it is due to the definite need of a setting of some kind which is felt by the particular subject concerned. What Tresselt and Spragg seem to have overlooked in their experiments with similar material is just this essential part that the title may play in the emphasizing of particular items of the text, in bringing these into greater prominence. As with the titles in the pictorial experiments, so here the title may act as an *implicit* setting or background to the process of perceiving and remembering.

Not all subjects, however, are able to organize the material so that it is meaningful and coherent, and the individual differences in this ability are quite striking. On the one hand, there is the subject who is able to grasp the whole structure of the piece, assigning it a definite theme and grouping all the remaining items in relation to this theme. On the other hand, there are a few subjects who, in their effort at verbatim accuracy, lose the theme altogether and are able to recall only a few more or less unrelated items. In such a case, of course, the series very soon loses all coherence, and almost all the content is quickly lost.

VI. DISCUSSION

On the whole, the results of all the three experiments described give ample confirmation to Bartlett's suggestions as to the function the name or title may play as a setting or background for the assimilation of the material, whether verbal or pictorial. If anything, the title seems even more important, under certain conditions, than he supposed, because, although it is never alluded to in any way in the instructions, it is always there as a background in relation to which the figural material is judged, even though its relevance is actively rejected. There is no doubt, also, that many of the changes that Tresselt & Spragg observed are due more to the influence of the titles than to any other variety of 'set' experimentally induced.

Another point that appears to have been brought out by these results is that the name or title can act either in a positive way by enhancing and emphasizing certain features of the material, or, negatively, it may actually impede the assimilation and organization of

the material, because the effort after meaning does not achieve a successful and fitting completion of the figure-ground relationship.

Furthermore, the individual differences, most noticeable with the verbal materials, in ability to single out the theme or general setting of the piece, seem to suggest that further research on this problem might be profitable, for, as Northway⁽³⁾ observed in her study of children's remembering, it is more important to find out 'what the subject constructs from the material' than to make any *quantitative* estimate of the number of items recalled.

Briefly, by way of conclusion, we shall outline some of the broader implications of these findings: (1) with regard to the general problem of the verbal setting as a factor in our everyday perceiving and remembering, and (2) with regard to the significance of the individual differences observed.

First, then, there is evidence to show that the Gestalt law of *Prägnanz* may operate even in a person-to-person situation, but that the processes of simplification and regularization may be arrested at the conceptual boundary provided by the name—as, for example, in the 'Ship' series. So far as the present results go, therefore, they suggest that, for normal adults, names or titles provide a framework for the assimilation of new experience, and they tell us something about the general *structure* of this background. Concepts of this nature, we may suppose, are in form as simple and economical as will allow them some selective differentiation from other concepts. It may appear so obvious to us that the picture of a dog will gradually lose all individuality as the reproductions made from it are handed on from person to person as to be hardly worth mentioning. Yet this fact tells us something about the general organization of experience which is very often overlooked—that both what we perceive as figural and how we perceive is directly dependent upon our language-categories, as is rightly emphasized in social psychological texts. It is our language that shapes and tells us what we 'ought' to perceive, that provides the group-setting and shape of our experience. It is the name or title which makes us *anticipate* a certain configuration, and shape our reproduction accordingly.

Now, the technique of verbally influencing how we perceive, remember and think, is being rapidly perfected in these days of slogan, headline and 'tabloid-thinking', as Thouless calls it. As vocabulary becomes more uniform and local differences of speech are lost, so our stock of stereotypes is likely to increase and our powers of independent judgement to diminish. So also, the function of the headline or title to some story or article is that of giving a particular emphasis to certain aspects of the text, and is one of the main methods of distorting and biasing what is remembered. In view of the major social importance of this problem, it is perhaps surprising that the implications of both name and title effect have not received more attention from social psychologists. The title, which, as Bartlett pointed out, may often be taken for granted (as was shown in his experiments by its frequent omission) nevertheless acts as an implicit frame of reference to the perceiving and remembering of what is to follow.

One further point, which has already been mentioned, is the *fittingness* of the name or title to that to which it refers. At what stage does the name cease to influence a drawing towards the setting which it symbolizes? At what point will a subject *reject* the setting provided, and search for a more appropriate one of his own?

We see in the 'Bird in flight' series just how this mutual give and take between figure and ground can take place. First, we find a few subjects who 'see' the implications of the title in the figure shown them and make their reproductions with some definite impressions of 'flying'. Secondly, we note the geometrical reversal of this trend in a subject who

appears to reject the title-suggestion and allows the design-quality of the figure to form his reproduction. Thus, the less 'conventional' and 'familiar' a figure is in relation to its setting, the more likely are individual differences in attitude to make the series deviate from the clear progression that, for instance, the 'Ship' series achieves.

As to the second point, the problem of the relevance of title to text is of particular interest, for present results suggest a method of assessing individual differences in ability to abstract the meaning of a verbal passage that may be useful in the testing of higher levels of intelligence. In an early study Henderson⁽²⁾, using the Method of Repeated Reproduction with verbal paragraphs, summarized the type of change in the reproductions as *Generalization*, which appears to amount to a progressive reorganization of material around a centre theme. He specially stresses the fact of 'the superiority of the more advanced students in grasping and retaining the general meaning of the passage even when they lost as large, or even larger, a percentage of details...' (p. 64). It is this schematic *quality* of higher intelligence which is overlooked in the usual tests, an abstraction that takes place even while the subject is in the act of perceiving and assimilating the material. On the other hand, as already noted, other subjects showed themselves so tied to the specific content of the material that they never freed themselves sufficiently from it to apprehend the central meaning at all.

VII. SUMMARY AND CONCLUSIONS

1. Hypotheses derived from Bartlett's experiments in *Remembering* as to the influence of names and titles on the serial reproduction of pictorial and verbal materials are confirmed experimentally, the results with both types of material showing many points of similarity.

2. The effect of the verbal setting is found to vary according to the structural relevance of the setting to the figural material, either impeding or aiding an adequate recall.

3. Individual differences in the ability to apprehend the essential meaning of a verbal text are important, the constructive quality of the recall depending upon the attitude and probably upon the intelligence level of the subjects concerned.

4. While conventionalization of the material may take place progressively down the series, slight changes leading eventually to a clearly representational figure, Gestalt tendencies towards greater simplicity and symmetry are also observed, both within the title-framework and where there is no verbal setting.

5. The possible implications for further research on the problem of the relation of title to text, with regard to the social factors in perceiving and remembering, are outlined, as well as the possibility of using such material for the assessment of capacity for verbal abstraction.

I should like to thank Prof. R. C. Oldfield for his help and advice in this study.

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INCENTIVES¹

By F. C. BARTLETT

I. *A change in terminology* (pp. 122–123). II. *Incentive and knowledge of results* (pp. 123–124). III. *Internal and external incentive* (pp. 124–126). IV. *What people can do, and what people will do* (p. 126). V. *The social control of incentive* (pp. 126–127). VI. *Summary and conclusion* (pp. 127–128). *References* (p. 128).

I. A CHANGE IN TERMINOLOGY

Whenever a particular word or phrase achieves outstanding popularity in any social group a number of interesting questions are apt to arise, both for the student of society and for anybody who may be concerned with the ways in which meanings change and develop in the course of their use. There must be something in contemporary and preceding social conditions which accounts for the rise of the pet expression. And when an expression is constantly coming into spoken or written use it must acquire some kind of significance which belongs specifically to the period.

Nowadays 'incentives' is one of these preferred terms. The politician, especially, the economist, the psychologist, the moralist, the industrialist, and the ordinary man all seem to use it with slight provocation. There must be comparatively few people in England who have not felt impelled at some time or another, this last year or two, to express some sort of opinion about incentives, what they are and what they can do.

Lately—perhaps as in duty bound, but I hope not for that reason alone—I have been re-reading some of the published work of Henry Sidgwick, to my own considerable advantage. As is well known, he was profoundly interested in those fields of inquiry within which ethics, politics, economics, and psychology too, as it was understood in his time, meet and overlap. Of course I have not read everything, but I have studied again the most relevant portions, and in these, at least, he never once uses the word 'incentive'. Yet it is not unreasonable to believe that had he been writing to-day, he would have felt strongly moved to discuss its implications.

This lack of any specific discussion of incentive was by no means peculiar to Sidgwick. His contemporaries in the same fields did not use the word either. What can be the differences between those days, that now seem so far away that we see them through a kind of golden haze, and these, that we in public and in private are constantly bothered about problems of incentive, whereas they never even mentioned them? This is not simply a changing fashion in words which has replaced one term by another. They talked and wrote a great amount about motives. But so do we. It almost seems as if to them what was regarded as having started some human activity must obviously also be capable of maintaining it, or even, on occasion, of intensifying it. But this is nowhere near so obvious to us, and it will be found that whenever the word 'incentive' is brought upon the stage of discussion, the underlying ideas are of something which maintains some already initiated activity at high level, or with increased efficiency, or which prolongs it for a period beyond that which would normally be secured by the initial impulses. That these are not the word's etymological significance, or the meanings that are usually given in the dictionaries, is of

¹ The Henry Sidgwick Memorial Lecture delivered at Newnham College, Cambridge, 19 November 1949.

course perfectly clear; but they are the meanings which have grown up in the processes of contemporary discussion and intercommunication, and they provide the difficult problems of incentive which have become a centre of current controversy.

It would be intensely interesting to try to discover what are the basic differences in society which have brought this word into widespread and specialized popular use. I think it likely that they are connected with the tremendous spread of popular education, the consequent increase in the size of groups with strong controlling functions in almost every department of human action, and the equally rapid development of scientific technology which tends among other things to demand uniformity of operation in most spheres of everyday work. To these points I will return later, but I had better make it clear at once that I shall not attempt to consider directly any of the political, ethical and economic issues that are involved. There are many others who could do these things far better. I propose to ask only the more factual, though scarcely less difficult, questions, which after all must be answered before the others can be settled: What are the main classes of human incentive? Through what mechanisms do they operate? And what are their limits?

II. INCENTIVE AND KNOWLEDGE OF RESULTS

We can begin by a very easy and simple observation. Let any person try with his eyes shut to draw a horizontal line of a given length, say $2\frac{1}{2}$ inches, and go on trying, always with his eyes shut, for ten separate attempts. However successful some of his tries may be, naturally his range of variability will be large. Now let him make his first shot and then open his eyes and look at it before he goes on, and let him continue in this way, drawing with closed eyes, but opening them and looking after each attempt up to ten as before. It will of course be found that his range of variability will have decreased markedly, and it is probable that his accuracy will have increased somewhat, though this is less certain. Finally let him, still drawing with closed eyes, after each attempt open his eyes and measure the lines against an objective scale. After the first two or three trials his range of variation will be extremely small and his accuracy will have increased to a surprising extent. Of almost any human activity it is true to say, within limits, that repetition with a knowledge of results leads rapidly to a uniform and relatively accurate performance, but practice without such knowledge leaves the operation internally variable and very subject to error(1).

This is not all. A few years ago two American experimenters, Leonard Carmichael and W. F. Dearborn, set out to discover what happens when people are asked to read print or microfilm records for long spells(2). Everybody knows that when a line of print is being read the eyes move in rapid jerks from point to point, coming to rest perhaps four to five times in the case of a practised reader who is dealing with, say, an ordinary newspaper column. Almost all the seeing and all the reading is done while the eyes are at rest. Ninety per cent or more of the actual reading time is spent in seeing the reading material, and so the movements must be both very rapid and very accurate. Carmichael and Dearborn gave their observers the best reading conditions possible, set them to work and recorded electrically all their eye movements. After about $1\frac{1}{2}$ –2 hours odd things began to develop. Readers perhaps stopped for a second or two: or their eyes would wander over the lines of print and apparently see nothing, certainly read nothing. Sentences and even paragraphs would be left out, lines missed, and in general the eye movements became more irregular;

and there were more regressing movements of the kind we make when we have read something and are not quite sure whether we are right.

At this stage the experimenters introduced a novel feature. They designed a way by which, every 25 minutes, without intermitting his reading operation, the observer could check up on how well he was doing his task. The reading spells increased in length. Up to 6 hours there were now no signs of deterioration, no skipping, no wandering scan, no increase of error, and no breakdown in the pattern of regularly controlled eye movements and pauses.

This is far from being the only observation of its kind. During the war we were able to observe the same thing with air pilots who had to read instruments at high speed and with great accuracy. Provided they could be given some way by which they could check up their performance every now and then and could know how effectively they were maintaining the standard with which they began, they continued for very long periods indeed at a consistent high level of skill and showed no bad effects whatsoever. There are many other recorded instances of a similar nature. In all of them it seems as if something has been added to whatever original motive starts the work going which maintains a high level of performance, enabling it to be continued far beyond the period at which the initial impulse begins to flag and lose its power.

III. INTERNAL AND EXTERNAL INCENTIVE

Now let us consider another case, in which the aim is to produce more work in the same time, rather than to maintain the same level of work for a longer time. Dr N. H. Mackworth set out to discover specifically the effects of hot and humid atmospheres upon various types of human behaviour(3). He showed that for a large range of operations, extending from heavy physical work with little skill, through highly skilled work with little physical effort, to complex mental activities, with possibly no physical effort at all, significant deterioration sets in when the temperature is raised to about 93° F. with a humidity saturation of about 65%, in fully acclimatized workers. These are conditions certainly not unknown in mining and other industries in this country.

Mackworth now selected a heavy physical task which the worker had to continue until he appeared able to do no more. The average amount of work done under normal working conditions in different atmospheric environments was determined for a sufficiently large working group. That is to say, the men were doing their best without any current knowledge of how they were getting on, and with no special stimulation over and above the ordinary motivation to work. Then every worker was set a target 25% better than his previous best performance. An automatic record was provided which the operator could use as a check on the progress of his work, and as he approached his target he was positively encouraged by the experimenter. The immediate result was an overall rise of nearly 60% in the amount of work done. But there were two particularly important points which unfortunately people who talk much about incentives often ignore.

It was possible to divide the whole working group into good operators and average or poor operators. The good operators, working under high incentive conditions, achieved twice the absolute increase of output as compared with the increased amount of work of the poor and average operators; and this in spite of the fact that the former group were working on a significantly higher level under the normal conditions.

Secondly, all operators, good or poor, when they reached working conditions at the human

tolerance limit for heat and humidity fell off in exactly the same way and exactly the same relative amount under incentive conditions as they had done with more normal motivation. As the good operators were working at a higher level under the incentive conditions their absolute fall was of course very much more marked.

Both of these results were established with very high statistical significance, and two conclusions may be regarded now as completely certain.

First, any incentives which are intended to increase productivity within the limit of the same working spells will have their most effective appeal to those elements of a working population who are already achieving a relatively high level of performance. Generalizing still further we can say that incentives are not going to be very effective unless they have a basis of good psychological material to work on.

Secondly, if incentives are used, it becomes more and not less important to make sure that there is nothing in the operations concerned which oversteps the normal limits of human tolerance in any direction.

There are obvious differences between the type of incentive usually called 'knowledge of results', and the type illustrated by the use of targets of performance. The former are external to the operation and a part of it in a sense in which the latter are not. The former begins to work as soon as the task involved is entered upon, and goes on working in the same way for as long as the task is, or can be, continued. The latter begins to be effective only as an end is approached and in proportion to the nearness of the approach. And if the end, whether it be a target, or any form of reward for work done, appears for some reason to be unduly delayed, the usual result is the exact opposite of the one desired.

There is a still more fundamental difference than this. The mechanism of body and mind by which the former type of incentives work is by economy of effort and by increasing skill in the correct interpretation of slight cues for action. The reading which first proceeds laboriously word by word and almost letter by letter, runs from phrase to phrase, sentence to sentence, nearly paragraph to paragraph. The operator of a mechanical or electrical machine uses fewer movements or smoother movement, interprets action signals by an abbreviated process of perception, and particularly extends his range and consistency of anticipation. So the natural effect is the possibility of maintaining efficiency for longer operation spells.

But the natural mechanism of reaction to the incentive which is, so to speak, tacked on to the task, and effective in proportion as its realization is approached, is to increase effort, to produce harder and quicker work. There are in fact spurt incentives, whose action, unless they are very carefully handled, is to leave body and mind more tired than need be, and if they are to be used to increase and also to maintain a level of work or production they have themselves, for this and other reasons, got to assume stronger and stronger forms in a theoretically endless series.

When people, of all classes, and of all manner of interests, talk about incentives in contemporary life, whether publicly or privately, it will be found that in the great majority of cases they are thinking of some form of reward or punishment, which is not inherent in an operation but becomes genuinely effective as the task nears completion. But almost always they ignore, or—to speak perhaps more fairly—they are not aware that these are fundamentally of the nature of spurt incentives, operating through increase of physical or mental effort, and with all the disadvantages that this may bring unless the incentive scheme is designed and controlled with most unusual wisdom and insight. There are, no

doubt, plenty of occasions in the life of a modern society when it becomes legitimate and right to appeal to the external incentive. They are all of the nature of crises, of episodes, of brief periods when extra exertion is required at any cost. If we rely upon them to produce a permanent state of high or expanding efficiency or production we are only setting out upon another of those ascending spirals which produce some of the most intractable problems of contemporary social life.

To this there is only one case which at first sight seems to be an exception; but it turns out not to be an exception at all. An external incentive, any form of reward or, with much narrower limits, of punishment, can be tied up with very long-term personal programmes, like founding a family, achieving by slow cumulative saving a state of security in a distant future, or winning permanent power or reputation. In all those cases the external incentive can work steadily over a long time because it is by itself accumulating progressive strength. It provides, so to speak, its own ascending spiral. But the last of these is not for the crowd, and though the other two are, there is not perhaps very much in the social order as we know it to make them widely effective.

The most urgent need of all therefore in the field of applied incentive is a more directed study of the variety and appeal of internal incentives, and at the same time it ought to be very clearly recognized that the general effect of these will be, not to produce more in the same time, but to maintain a high level of efficiency throughout longer working spells or a longer working life.

IV. WHAT PEOPLE CAN DO, AND WHAT PEOPLE WILL DO

If we accept this—and obviously it is not very easy to accept it in practice nowadays—we come straight up against what is, it seems to me, the most fundamental of all incentive problems in the world as we know it. The experimental evidence, though it is not extensive is absolutely unassailable on one point: that knowledge, information can directly affect effort, and if the effect is favourable and unrestricted it will work mainly through economy of effort. So far as I can see nobody has fairly and squarely faced the simple fact that incentives, as they are now understood—influences that come into play over and above the initial impulse to activity—operate only in the sphere of voluntary effort. If we are fairly to estimate their probable results we have then to consider the distinction between what a person can do and what he will do. There is also irrefutable experimental evidence that between these two there is often a great gulf fixed.

We come back now to those considerations about contemporary society which I mentioned very briefly at the beginning of this lecture. We have to deal with a relatively educated population. We have reached a stage of economic development in which, mainly as a result of astonishing technological advance, the working life of extremely large sections of the population is uniform to a degree never realized earlier. And, at least in our Western way, we have achieved a society in which the main effective control is exercised by very large social groups.

I will consider very briefly the bearing of each of these social facts upon incentive.

V. THE SOCIAL CONTROL OF INCENTIVE

The first, popular education, has come to mean among other things, that nearly everything having a wide application in modern life, from diplomacy to scientific discovery, is rapidly publicized, and usually as quickly distorted. It is true to say that the easiest, the healthiest

and very likely the only permanent incentives work by way of diminished effort and so naturally involve longer working spells or working life or both. But there is now little or no hope of applying the methods required by such incentives to a working population without also making public the ways in which such methods are likely to produce their results, and if there were any such way, most of us would not wish to take advantage of it. To take the one case that we do know something about. If knowledge of results within an operation will normally and naturally improve that operation, as we know that it will, knowledge of the fact that this improvement is likely to be effective only when working hours or the working life are lengthened may, if there are any popularly accepted obstacles to this extension, set up just that gulf between what can be done and what will be done, in the sphere of voluntary action, that will render the incentive inoperative.

The second basic fact about modern society, the uniformity of practice of very large operative sections of the community, will almost inevitably provide popularly accepted obstacles of the kind which I have just mentioned. We know experimentally that the notion that any form of incentive can, so to speak, be thrown into a whole group of operators with uniform overall results is completely wrong. In general, satisfactory results will be obtained only from the best operators, which, in the sphere of voluntary action, means the most willing operators. In almost any uniformly operating industrial group there will certainly be a sufficient number of people who are not willing to that degree and who will consequently set up just that sort of obstacle that can render an incentive null and void, particularly in the special case where longer working shifts are likely to be demanded.

Finally, we have got to reckon with the fact that the effective control of day by day activities is now exercised by very large social groups over and through other very large social groups. Such control must operate through rules which are uniform, especially in fields where technology has got the complete upper hand, as in nearly all directions of industrial production. Such rules when they are established and accepted become treated as knowledge in exactly the same way as the 'knowledge of results' of which I have been speaking, and they can have precisely the same kind of direct effect on action. When there is any clash between these two sources of knowledge, as in many ways there certainly is to-day, generalized rules, which have the sanction of very large groups at their back, are almost certain to win. More specifically, we know that the natural psychological consequence of operating strong internal incentives is some form of longer working hours. If, however, there are established and inflexible rules about working hours which are promulgated by large controlling social groups, they will be extremely resistant to change, and since the actions that it is desired to influence are all voluntary, there will be a very large number of instances in which the rules will take control, and the normal effects of the incentive may not appear at all. And thus it will seem as if the incentives themselves are at fault and ineffective. This is, I believe, a fair statement of our present social position.

VI. SUMMARY AND CONCLUSION

Let me now try briefly to summarize the main points of this argument.

There are two large classes of human incentives: those that are external to the operation and take one or more of the many forms of reward or, sometimes, of punishment. They work by increasing effort so that more will be achieved in the same or in less time. They are purport methods and if they are not used with great knowledge and wisdom their longer term results may be disastrous. In one respect and in one respect only this is not the whole

truth. There are certain fundamental motives to effort which work steadily for long periods. Of these the most important are the foundation of a family which will go on from generation to generation, the slow accumulation of savings which will produce some future assured security, and, for the few, the gradual building up of power or reputation. In proportion as any society removes these from the range of everyday consideration for the bulk of its members, it must accept the external incentive as a condition of spurt only.

On the other hand, the outstanding character of the internal incentive, in all its known forms, is that it works by diminishing effort and its principal effect is not the intensification, but the maintenance of efficiency. I would go so far as to say that in our present society, with its urgent demand for large-scale increase of productivity, the easiest and perhaps the only way is by longer working hours and probably a longer working life. These could be achieved with great gain to health and great reduction of fatigue and all forms of strain. But the basic difficulty in practice is that like all other forms of incentives, as they are now thought of, the internal incentive is an additional stimulus supplementing whatever may be the impulses, desires and motives that originate the activity concerned, and working at a level of voluntary action. If there is any inadequacy in the basic impulses, desires and motives, or if there are established social rules which come into conflict with the normal results of the incentive, those normal results may very well fail to be achieved. Beyond any doubt both of these will be present to a considerable degree in any working population that we can now think of in any large field of productive effort.

Probably the most important single fact that has emerged from all controlled study of incentive is that incentives can have a free and fair chance only as they are offered to willing human material. And so the end of any honest and clear-sighted discussion of incentive must be the beginning of the more important problem of how, in the world as we know it, to produce the kind of population that incentives can reach. And that is another story.

So what? The great bulk of popular speaking and writing about incentives current to-day implies that in some sort of fashion they can be made an almost magical cure for a large portion of our social discontents. Definitely and decisively they cannot. They can operate in two ways only, by increasing effort or by prolonging effort. The second is beyond question both the steadier and the healthier way, but it is, equally certainly, the more unpopular. If incentives are to have a fair chance to achieve the wide social effects which are hoped for there are two problems which people who know how to tackle them must be given reasonable opportunities to solve. First, we must know the normal limits of human tolerance for load, speed and particular environmental conditions of work. And secondly, we must discover how to produce a socially responsible population in sufficient numbers. For the first the basic methods are already known and much of the required information is already available if only people would give it their attention. The second is more difficult, but I believe it could be done.

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A COMPARATIVE STUDY OF RUMOURS AND REPORTS IN EARTHQUAKES

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Introduction (p. 129). II. *Classification of the data* (pp. 130–133). III. *The projection theory of rumours* (pp. 133–134). IV. *Shift in situation followed by shift in attitude* (pp. 134–135). V. *Influence of the catastrophe upon the resultant attitude* (pp. 135–136). VI. *Analysis of the resultant attitude* (pp. 136–138). VII. *The role of attitude in determining rumour* (pp. 138–140). VIII. *Reappearance of contents and themes* (pp. 140–143). IX. *Summary* (pp. 143–144). *References* (p. 144).

I. INTRODUCTION

During the state of panic brought about by the disastrous earthquake of 15 January 1934 in the Province of Bihar in India, a large number of rumours prevailed among the people. Thirty of them were reported and discussed by me in a paper entitled 'The psychology of rumour: a study relating to the great Indian earthquake of 1934' published in this Journal in July 1935. Since then I have pursued the study further and collected some more materials from three sources, namely, (1) my own records of other rumours during the same earthquake panic, (2) historical records of past earthquakes in India, and (3) historical records of earthquakes in some other countries during the last 1000 years.

Two problems are discussed in some detail in this paper. The first was given only a general formulation in my previous paper. The second did not arise until I had made a comparative study of the rumours and their parallels from historical records. The first problem was introduced in my former paper, when I wrote: 'More interesting, however, is the question of why rumour acquires the particular content that it has in any given case' (1). This is the problem of the source or origin of rumours. Do they take their origin almost wholly from 'within' the mind, from purely subjective and inner mental conditions by way of 'projection' of some repressed complexes, or of primordial images and archetypes? Or do they arise as 'constructions' or structurizations of the stimulus situation, produced by the peculiar attitude, which itself was formed under the influence of the special situation of a crisis? We are in favour of the latter alternative. We attempt to answer the first problem, therefore, by explaining rumours in terms of such objective factors as the special situation and the social and cultural environment, as well as the internal conditions which intervene between stimulation and reaction.

The second problem arising from a comparative study of the data is why the same types of rumour and report appear again and again about earthquakes occurring in different places at different times. The comparative study shows that there is a remarkable similarity between the rumours I have collected, and the recorded reports or verbalized reactions of people, irrespective of time and place differences, whenever men have been faced with a similar catastrophe. The similarity is found not only in form, but also in content, so that they appear to be recurrent reaction patterns. These are reminiscent of the so-called type-fantasies, type-dreams, primordial images, archetypes and universal symbols. But for their explanation we are not compelled to resort to the theories of Freud or of Jung. We shall see in the course of the discussion that the answer to the first problem contains the clue to the answer of the second also.

II. CLASSIFICATION OF THE DATA

For the sake of convenience in comparing the points of similarity among the data, a two-fold classification has been adopted, which may be called roughly horizontal and vertical. The various tables given below contain a horizontal classification showing the points of similarity. The groupings into A, B and C, under each table, indicate a vertical classification showing that the items reappear at different times and places. Group A contains those rumours which followed upon the great earthquake of 15 January 1934 in India; group B contains the reports recorded about earthquakes in India during the past 1000 years; and group C contains those which have been selected from the records of earthquakes in other countries during the last 1000 years.

I may mention here the sources of my collection. Fifteen of group A are taken out of the thirty which were reported in my previous paper⁽¹⁾. The rest are from my personal collections made during the same earthquake period of 1934, but not reported previously. Those in group B are drawn from an historical account, by Mr M. P. Singh, Librarian, Bihar Legislative Assembly, published in the local English daily papers, shortly after the earthquake when popular interest was still very keen. They were taken by him from English translations of several original sources in Arabic and Persian. The records are rather meagre in this group. I have selected only twelve of them as being relevant to our study. Group C contains relevant reports selected out of a larger number published in two local journals in the Urdu language called *Ittehad* and *Naqeeb* in March 1937. The chief original source of the records in this group is a chronology of earthquakes written in Arabic by Jalaluddin-us-Suyuti, an Egyptian polygrapher. A translation of this work into English by A. Spranger is reported to exist, but I have not been able to find it. The selections are my own free translations of the Urdu versions of the Arabic originals.

Table 1. *Disappearance of rivers*

- | | |
|---------|--|
| Group A | <ol style="list-style-type: none"> 1. The water of the River Ganges disappeared at the time of the earthquake, and people bathing were embedded in sand. 2. A river in Muzaffarpore has disappeared as a result of the earthquake. 3. An executive officer of Monghyr had crossed a river on an elephant before the earthquake. But returning from his tour immediately when the earthquake occurred, he simply walked across the bed of the river from which all water had disappeared on account of the earthquake. |
| Group B | No record. |
| Group C | <ol style="list-style-type: none"> 1. Due to an earthquake in Antiochia the river disappeared to a long distance. In Mecca all the springs disappeared. (245 Hijri.)¹ 2. Due to an earthquake the water of the Tigris disappeared for a while. (549 Hijri.) 3. A most fearful earthquake came in Ramla. The water of the river receded to a distance of 1 day's journey, and fishes were left on dry land. Some people ran up to catch hold of the fishes. But when they reached them, the water of the river suddenly came back upon them and all of them perished. |

Table 2. *Cyclones and storms*

- | | |
|---------|--|
| Group A | <ol style="list-style-type: none"> 1. There will be a severe cyclone at Patna between 18 and 19 January (1934). 2. There was a terrific storm, followed by a severe earthquake in England and practically the whole of the country went down into the sea. |
| Group B | <ol style="list-style-type: none"> 1. A furious hurricane arose at the mouth of the River Ganges, and a fearful earthquake occurred. About 300,000 lives were said to have been lost. (11 October 1737.) 2. A storm arose in Augool at 4 o'clock and suddenly a severe shock of earthquake was felt and many houses collapsed. (19 October 1800.) 3. At about 1 o'clock in Madras three earthquake shocks were felt. At this time a terrible cyclone was also blowing accompanied by very high sea-waves. (10 December 1807.) |
| Group C | <ol style="list-style-type: none"> 1. In Egypt a great wind blew all over and was followed by an earthquake. (593 Hijri.) 2. A severe cyclone arose in Baghdad. The whole atmosphere and all the houses became dark. Then the same year shooting stars appeared in enormous numbers. (323 Hijri.) |

¹ Hijri is the Islamic era. Its beginning corresponds to A.D. 619.

Table 3. *Mountains and hills*

- roup A 1. The prediction of Dalai Lama has proved true that the Indian Government must suffer heavily since they sanctioned the Himalayan expedition which was against the order of God.
 2. It was revealed in a dream to somebody that the deity of the Himalayas has been enraged by the fact that several foreign explorers have been trying to reach the highest summit. This is why the earthquake took place.
 3. The Himalayas are trying to rise higher. The earthquake followed as a consequence.
 4. It is believed that the Everest is now 1000 ft. higher than what it was before the earthquake, having been lifted by the gods for their future protection.
- roup B 1. In 1795 a severe earthquake came and was felt both in India and Ceylon. Near Colombo a very big rock flew and fell into the sea from which the route of ships was blocked.
 2. In 1827, a fearful earthquake occurred in Sylhet. It broke one of the hills into pieces of which one piece fell into the river and stopped its flow.
- roup C 1. A violent earthquake occurred in Shabban. The mountains fell down and the earth opened widely. In one village five stones fell down from the heavens. One of them fell on a tent and set it on fire. (242 Hijri.)
 2. In Antiochia due to earthquake a mountain fell into the sea. (245 Hijri.)
 3. In Halwan a most destructive earthquake occurred. In the neighbourhood of Rae a remarkable effect of the great earthquake was that a mountain fell down, and one village with all its inhabitants, houses, and belongings flew and remained suspended between the sky and the land. Then it fell down and sank into the ground. (346 Hijri.)

Table 4. *Eclipses and planets*

- roup A 1. There will be a severe earthquake on the lunar eclipse day.
 2. Six planets had already assembled together before 15 January, and then a seventh, namely the moon, also joined the congregation at 2 p.m. and the earthquake immediately followed.
 3. The moon has left the other planets. This is a bit favourable, but still the six planets conspire and more disasters will happen.
- roup B 1. An eclipse of the moon preceded the severe earthquake of A.D. 893. (According to another authority it was an eclipse of the sun.)
 2. The planets Jupiter and Saturn were in the same position at the occurrence of the earthquake of 1833 as they were when the destructive earthquake of the thirteenth century occurred.
- roup C 1. In Ardebeal six earthquake shocks occurred, killing 100,000 people. One of them was followed by an eclipse of the moon, darkness and wind. (280 Hijri.)

Table 5. *Floods*

- roup A 1. A flood was rushing from the Nepal borders to Madhubani.
- roup B 1. In Agra such a darkness prevailed for half an hour that one could not see even one's hand. After this a terrific cyclone arose. God sent such heavy rains this year that a big flood came in the river Nasik. Several towns and their inhabitants and thousands of cattle were swept away. (22 August 1667.)
 2. A fearful earthquake occurred from which several hundreds of inhabitants of Cutch were killed. Suddenly the waters of the sea came rushing in waves and in the twinkling of the eye the whole town was completely flooded. (16 June 1819.)
- roup C 1. Such a severe flood came in Dajlah that the water rose 21 cubits above the normal level, and the whole of Baghdad was submerged. (292 Hijri.)
 2. A devastating flood came in Baghdad, and the whole of the town was submerged. All buildings were destroyed. (329 Hijri.)

Table 6. *Destruction of a capital town.*

- roup A 1. A capital town on the bank of the Ganges will be destroyed on 26 February 1934.
 2. An astrologer from Delhi has wired to Mr X entreating him to leave Patna on 26 February for Patna will cease to exist on that day.
- roup B 1. A very severe earthquake occurred in India. The capital was destroyed. 180,000 people perished (893 Hijri). (According to another authority the number of the dead was 150,000.)
- roup C 1. In Syria many amazing calamities occurred. At first a darkness spread over the atmosphere and then a black wind began to blow. This was followed by a severe earthquake which destroyed practically the whole town. (280 Hijri.)
 2. An earthquake came in Bahtar, and the town sank below the earth, and in its place a lake of black water appeared. (533 Hijri.)
 3. An earthquake occurred in Egypt and Syria. The whole of Alexandria sank into the sea. (693 Hijri.)

Table 7. *Fires*

- Group A 1. In Bhagalpore, fire in the shape of a large ball came out of the earth and went straight towards the sky and then, like a flame, fell down, as a result of which two houses were burnt to ashes, and a frightful sound was heard.
- Group B No records.
- Group C 1. A rain of fire took place in Mosul from which hundreds of houses were burnt to ashes. (524 Hijri.)
 2. In Baghdad at midnight a furious storm broke out, and a column of fire appeared in the sky which terrified the people. (574 Hijri.)
 3. In Medina a loud sound was heard and a severe earthquake followed. Five days after this a huge fire appeared, and proceeded like a flood or a moving mountain of flames towards Shata. People saw the necks of camels in its light. (654 Hijri.) (It is said in the Koran that just before the day of judgement such a fire will arise from the Hedjaz that the necks of camels will be seen in its light from Basra.)
 4. At the coast of Auguinoos fire came out of the earth so that many towns and mountains were burnt down. (1134 Hijri.)
 5. An earthquake occurred in Java. The earth cracked and fire came out of it. (1238 Hijri.)

Table 8. *Rain of blood*

- Group A 1. In April 1934, a rain of blood took place in Gorakhpore at night. This news was confirmed by a police officer in his report.
 2. Some Sikh gentlemen passing along the Latin Road in New Delhi felt that all round some drops were falling. Seeing that they were drops of blood, they were struck with fear and hurried home. (Some more rumours about the rain of blood in two other towns, Muzaffarpore and Darbhanga which were very seriously affected by the earthquake of 15 January 1934, had also been heard at Patna.)
- Group B 1. A dreadful earthquake occurred in Gujrat. The earth cracked for leagues. A few days afterwards there was a rain of blood. The drops were large. The whole earth turned red, and fountains became red. At the same time a comet appeared and remained visible for 15 days. (February 1705.)
- Group C 1. There was a rain of blood in Yemen, similar to what had happened during the time of Pharoah (Pharoah). The whole earth became red with blood. The stains of blood remained on the clothes of people.

Table 9. *Strange animals*

- Group A 1. A huge and ferocious-looking ape-like animal had appeared in the town of Arrah. It used to attempt rape on young women.
- Group B No records.
- Group C 1. In Baghdad a very ferocious animal appeared. People called it 'Zubzub'. It used to devour little children and bite off breasts of women. (304 Hijri.)

Certain general 'themes', as distinguished from reports of separate, isolated events (noted under the tables above), also appeared again and again. They are not concerned with any particular and localized occurrences and incidents connected with the earthquake. They indicate certain general modes of social thinking, certain emotional thought patterns, relating to the earthquake catastrophe *as a whole*.

Table 10. *The end of the world (Day of Judgement)*

- Group A 1. 23 January (1934) will be a fatal day. Unforeseeable calamities will arise.
 2. There will be a *Pralaya* (total deluge and destruction), on 26 February 1934.
 3. The prophet of Islam had told somebody in his dream that the day of judgement (Qiamat-e-Saghra) is very close.
- Group B 1. The great earthquake of A.D. 911 was not confined to Hindustan, but was felt powerfully in Kabul and Persia. People felt that the day of resurrection had come.
 2. On 15 July 1720 a fearful earthquake suddenly occurred in Delhi. Hearing the sound from the earth and seeing houses fall, people felt sure that the day of judgement had come.
- Group C 1. In Basrah yellow wind appeared and after this a wind of green colour, and it was followed by black wind. Afterwards big hailstorms rained. The amazing thing about this rain of stones was that in some villages both black and white stones (hailstones) fell. It seemed that the day of judgement had come. (285 Hijri.)
 2. A deep black wind appeared in Baghdad, and then there was a rain of sand and earth. People felt that the day of judgement had come. (478 Hijri.)
 3. A huge star fell and produced a most terrifying sound. The earth and buildings shook and people felt that this was a sign of the last day. (593 Hijri.)

Table 11. *Sin and punishment*

roup A	1. Muzaffarpore and Monghyr suffered severe destruction because these towns were infested with a large number of prostitutes.
	2. The earthquake was a punishment for our sin of untouchability (i.e. social evil of treating certain low castes as 'pariahs').
	3. The devastating earthquake of Quetta was due to the lax morals of Quetta girls. [In May 1935 a terrific earthquake occurred at Quetta (a hill station to the north of Bombay) after midnight. As people were asleep and could not run out of their houses, a much larger number of lives was lost.]
	4. The great earthquake of 15 January 1934 was a warning from God that man must give up his evil deeds. (A comment by <i>Naqeeb</i> , March 1934.)
roup B	No records.
roup C	1. A most severe and frightful earthquake occurred in Egypt, and it continued for three hours. People prayed to God for mercy and forgiveness, and then this catastrophe stopped. (344 Hijri.)
	2. Stars fell like locusts. People were greatly frightened, and cried on the name of God for forgiveness. (599 Hijri.)

III. THE PROJECTION THEORY OF RUMOURS

The prevailing theory of rumour seems to be what may be called the 'projection theory'. Jung dropped a hint about this sort of theory when, discussing the projection of the contents of the collective unconscious such as gods, demons, etc., he made the remark that modern myth-formations, that is fantastic rumours, also grow up by way of projection (2).

Bernard Hart seeks to explain rumour practically as projection of 'complexes', using the term 'complex' in his own rather popular sense (3). More recently, G. W. Allport & L. Postman, in their very interesting and admirable book called *The Psychology of Rumour*, appear to be definitely in favour of the projection theory. They point out that there is a similarity between rumour and the so-called projective tests, and hold that in many cases 'we may describe the rumour simply as a projection of an altogether subjective emotional condition' (4).

Restrictions of space do not permit here a critical examination of the projection theory and its adequacy when applied to our own data. But a passing reference to one or two points is necessary to bring into clear relief our own explanation.

Projection is essentially the release of some inner emotional tension by the process of displacement. What happens is that certain original past situations, involving emotional conflict, lead to repression, and a more or less continued state of emotional tension. Subsequently, when any other situation of stress and strain arises, the repressed processes are displaced from the original situation and attached, in a more or less free and arbitrary manner, to the new situation. By thus disowning the inner unpleasant experiences and fastening them on to other persons and objects, some relief and satisfaction are obtained. If rumour is the result of projection, then it would be a purely subjective response, and it would constitute but a device of the human mind to 'let off steam' on the slightest inducements and provocations.

In the first place, projection is essentially limited to a personal element only, because it consists in ascribing the inner thoughts and feelings of one person to another person or persons. It reveals the subject's own personal story when he attributes his inner experiences, without any rational justification, to another. The question of 'I' versus 'the other fellow', or 'We' versus 'They' is involved here. But the disappearance of rivers, the falling and breaking of hills, the appearance of cyclones, fires, and the interpretation of eclipses, comets and planetary constellations as signs of calamities hardly involve the ascription of anyone's inner experiences to others. Even the sin and punishment rumours do not

involve any personal element or any question of 'I' versus 'him' or 'we' versus 'they.' It was not 'his' or 'their' sin but 'our' sin (i.e. the sin of all), which was held to be responsible for the disaster. As a matter of fact, the sin or punishment rumour seems to be akin to a thought-pattern common to ancient culture, and indicative of a responsiveness to the supernatural; this in so far as it implies a belief that the moral order (sin, evil) could cause a change in the physical order of events and bring about the earthquake.

In the second place, even assuming that the projection theory would somehow still be applicable to these data, it breaks down on the specifically social implications of rumour. It cannot explain why the experiences of one individual should produce such common responsiveness as to be taken up and transmitted by the second and a third, and so forth, in a chain, until a whole group of individuals become responsive to them. It practically ignores the great importance, in rumour, of the utilization of the cultural traditions, beliefs, etc., of social suggestion, heightened communicativeness, relaxation of social distance, etc.

Lastly, it ignores the relation of rumour as a response to that special characteristic of the situation in which a common attitude of proneness to the formulation of rumours and false judgements arises. In one type of situation, conditions exist which are favourable for the formulation of rational judgements for which sufficient and objective evidence is available or is actively sought. But in other situations, such conditions do not exist, and no evidence is available, or the need for it is not felt, and still the tendency to formulate judgements is dominant. It is highly probable that an attitude, altogether different from that which functions in the former type of situation, is called into play by the latter. Rumour would seem to derive its characters and form from such an attitude which arises with the situation and disappears with it. The rumours arose with the catastrophic situation of the earthquake, lasted as long as the latter, and when its effects passed off, the rumours also ceased to arise. This suggests that as situations change, attitudes also change correspondingly, and produce responses which are, in some way, congruent with the framework of the attitude.

IV. SHIFT IN SITUATION FOLLOWED BY SHIFT IN ATTITUDE

The sudden occurrence of the disastrous earthquake caused a shift from the existing normal and stable situation of everyday life to a catastrophic and unstable situation. The shift in the situation produced a corresponding shift of attitude. Rumour and other responses which suddenly flare up during a critical situation derive their form and content from the changed attitude brought into operation by the changed situation. There is no doubt about the determination of responses by attitudes which arise from time to time. This is a universal phenomenon in psychology. For instance, Bartlett has aptly shown on the basis of extensive experimental researches that perception, recognition, recall, etc., are determined by appropriate attitudes⁽⁵⁾. G. W. Allport has pointed out that the concept of attitudes is indispensable in contemporary social psychology⁽⁶⁾. Sherif & Cantril write that particularly where the stimulus situation is vague, ambiguous, and inadequately structured, an attitude, or frame of reference, is formed and it imposes some sort of a meaningful interpretation upon the stimuli around⁽⁷⁾. The interpretation is naturally in terms of the frame of reference which develops in the situation. The simplest illustration of this fact is seen in the psychological laboratory, where the experimenter's instruction produces in his subjects an instructional 'set' or attitude, a 'consciousness of the task', which pre-deter-

mines not only how the given experiment is to be carried out, but also what sort of responses shall arise. Where the instruction is such as to avoid producing any definite set or attitude, as, for example, with Bartlett's experiments on perceiving and remembering, the material itself induces some sort of an attitude for the reactions. For example he says: 'the observers were throughout constantly utilizing an imaged setting or background for their perceptual reactions' (5). In the more natural field situation, the perceptual settings, the habit patterns, the cultural conditioning, the motivational and emotional stress and the social surroundings of individuals combine, in a complicated fashion, to induce an attitude, more or less appropriate to the situation concerned. Similarly, the critical situation of the earthquake, with its attendant emotional stress, induced a special attitude among people, of which one consequence was the rise and spread of a variety of fantastic rumours. In our view, fundamental importance belongs to such a shift in attitude which follows upon a shift in the situation.

But attitude in the prevalent psychological literature admittedly appears to be something vague and elusive. It may be genuinely doubted whether it would be safe to build the foundations of an explanation on what is vague. It is true that an attitude, being a purely functional concept, is of a different logical nature from e.g. a sensation or an image. But the force of this criticism would disappear if we could show that the attitude is describable in fairly exact terms. We will try to show (1) that the attitude conducive to the rumour contained certain determinate characteristics and patterns, and (2) that the attitude and its peculiar patterns were the consequence mainly of the impact of the change in the situation, and of experience of whatever properties and patterns appeared to characterize the changed situation.

V. INFLUENCE OF THE CATASTROPHE UPON THE RESULTANT ATTITUDE

In the 1934 situation the characteristics of the attitude arising seemed, to a large extent, to have been induced by the general pattern of the disastrous changes following upon the earthquake. A few dominant patterns in the situation are broadly distinguishable despite the fact that it appeared to be rather full of vagueness, confusion, and devoid of meaningful structurization.

In the first place, the suddenness with which the violent changes overtook the environment, the destruction of human life, the reduction of houses to mere heaps of debris, etc., altered, suddenly and instantly, the hitherto stable conditions of life into their very opposite. Consequently, an unstable and insecure pattern of the conditions of living appeared to characterize the whole environment. It naturally produced widespread frustration, profound emotional disturbance, and a deep sense of insecurity, all of which came to be represented in the attitude developed under the impact of the crisis. Further, the destruction seemed to be so arbitrary, meaningless and without any justification that it was difficult to be certain that the patterns of things were not really set towards a universal destruction. A deep sense of emotional insecurity was thus involved in such an attitude of mind.

In the second place, the stimulus field was devoid of clear and adequate objective structurization. The usual coercion which such structurization exercises over the processes of observation and judgement formation was thus lacking. Thinking was left free from the constraint of the external conditions, and was dominated by the internal conditions and attitude called into play by the crisis of the earthquake situation.

Add to this the considerable vagueness and confusion produced by the dislocations in the environment, the absence of news, the lack of knowledge about the actual occurrences and the impossibility of verifying reports originating from ill-defined and distant places. People could not remain in such a state of indecision and suspense. They developed an attitude of proneness to rumour and to the formulation of judgements without waiting for evidence.

In the third place, to this lack of objective structurization there corresponded suggestions of 'the beyond', i.e. the supernatural, because the agency of the disaster was unknown and invisible. The familiar natural order of things was rudely upset by what appeared to be an inscrutable force working in a mysterious way. Some supernatural order appeared to assume control over the physical environment, and familiar objects seemed to display uncommon patterns of behaviour. A sense of awe, amazement and mystery overtook the thought tendencies of people, and the normally rational attitude towards life suffered a setback.

In the fourth place, such an altered pattern of the situation as a whole made it impossible for people to maintain that rational and naturalistic frame of reference which the more modern part of culture inculcates. Instead, the whole stimulus field came to be re-structured in terms of those norms, values, traditional beliefs and legends which belong to the more ancient part of culture. The functional potency of these older elements of culture, which remains recessive in the normal conditions of life, acquired dominance once again; and myths, legends and traditional beliefs became, therefore, the source of supply of many of the rumours.

Finally, there was a specifically social pattern in the situation, in so far as the whole group was involved in the common disaster. For instance, if a person was told that his house suffered no damage, instead of feeling pleased at the implied suggestion of the strength and durability of his house, he would resent being thus regarded as an exception to the common fate of all. Everyone felt that he shared with the group the experiences and sufferings common to all. Everyone disliked being placed outside the group, and being isolated as a favoured exception, unconcerned in the common fate. A social situation like this clearly indicated a heightening of group responsiveness, a lowering of social distance, and an increase in the communicative activities of individuals, whereby they served as easy and ready links in the chain of transmission of what was seen and heard.

VI. ANALYSIS OF THE RESULTANT ATTITUDE

The preceding discussion shows that the peculiar patterns of the objective situation shaped and determined the framework of the attitude. It cannot, therefore, be said to have been pre-existing in a finished form antecedently to the situation as some sort of a pre-formed disposition or 'trace', deposited in the mind as the result of past experiences of individuals or of the race, and re-awakened into activity by the exigencies of the situation. Although the influence of past experience in the formation of an attitude or frame of reference cannot be wholly denied, an attitude, nevertheless, develops, in a very real sense, in close interdependence upon a present given situation, utilizing, but not reproducing, whatever past experiences lie at its basis. The order of sequence is, therefore, that the existing situation caused the development of a more or less corresponding attitude, and the attitude, in its turn, produced responses which were congruent with its own constituent patterns. We are now in a position to present an analysis of the constituent patterns of the attitude, which, by implication, have been indicated in the preceding section.

The attitude was characterized by four dominant patterns: (1) an emotional pattern, (2) a cognitive and thought-pattern, (3) a cultural pattern, and (4) a social pattern.

(1) The emotional pattern was constituted fundamentally by a deep sense of insecurity. The destructive results of the earthquake, the frustrations produced by them, and the feeling of helplessness at the overpowering nature of the phenomenon, all combined to produce a profound emotional insecurity. It provided the motivation to expect nothing but harm and injury and more destruction from the forces of nature. It excited the imagination to work with this frame of reference, regardless of any real justification for those dire expectations.

(2) The thought-pattern of the attitude was non-rational. It was partly a consequence of the emotional disturbance, because rational thinking is not compatible with emotional disturbance. Further, since there were hardly any well-formed patterns in the stimulus field which might objectify the thought processes, the motive-force to maintain correspondence with real facts was lacking. In a state of affairs like this, the rational attitude would have been to withhold judgement, and to interrupt the chain of communication until facts were ascertained and evidence duly considered. But owing to the emotional stress the control required for maintaining such a rational attitude was put out of action. On the other hand, the situation contained some vaguely suggestive thought-patterns of the mysterious and supernatural, because the agencies of the earthquake were imperceptible, invisible and unknown. Thinking, therefore, turned towards that which lies beyond the world of natural and physical phenomena. In a situation which does not display adequate objective patterns, and at the same time points suggestively to 'the beyond', thinking is obliged to assume a purely 'compensatory' role and seeks to structurize the situation in some sort of meaningful relations. Its function is similar to what Bergson has called '*la fonction fabulatrice de l'esprit*'. He does not regard it as identical with imagination, but something which counterbalances or compensates the rational functions of the intelligence. It lies at the basis of fantasy, fiction and superstition, which explains the fact, to quote his own words, '*qu'un être essentiellement intelligent est naturellement superstitieux, et qu'il n'y a de superstitieux que les êtres intelligents*' (8).

(3) The culture-pattern of the attitude naturally corresponded to its non-rational thought-pattern. Every society possesses two parts or levels of culture, namely, the rational-naturalistic, and the non-rational-supernaturalistic, which are related respectively to what are known in anthropology as the 'profane' and the 'sacred' worlds. Even in savage societies, as Malinowsky points out, there is a 'clear-cut duality of natural and supernatural causes' (9). He says that savages resort to magical rites for invoking the aid of supernatural powers only in those circumstances in which their best knowledge, based on experience and reason, fails to produce the desired results. Similarly, as an intellectual understanding of the earthquake in terms of the rational concepts and values characteristic of the more modern part of culture was impossible, and also because the situation itself suggested the supernatural, people resorted to the ideas, values and beliefs pertaining to the older level of culture. The culture pattern of the attitude was thus derived from myths, legends, superstitions and similar traditional beliefs.

(4) The social pattern of the attitude was derived from the experience of a common adversity and insecurity in the conditions of life affecting the whole group. It is a well-known psychological phenomenon that when numbers of individuals are faced with a

common threat or danger, they forget their differences and unite in some sort of a defence. The tendency to free inter-communicativeness, and increased responsiveness to the suggestions of other individuals of the group, are integral parts of the social character of the attitude which developed in the situation.

VII. THE ROLE OF ATTITUDE IN DETERMINING RUMOUR

There is nothing extraordinary in the view set forth here that rumour, as a response, was determined mainly by the specific attitude which developed in the particular situation. It is an instance of the universal psychological phenomenon that responses which actually occur in any given situation depend upon the attitude, or frame of reference, which develops in relation to the situation.

We will now discuss this important point of our explanation by a reference to the data collected in this paper. The reports (the rumours in group A and their parallels from historical records, groups B and C) have both content and form.

Let us take the contents first and ask why do the earthquake rumours and reports concern themselves with such objects as rivers, cyclones, hills, floods, fires, etc. There must be some sort of relation or association between them and the earthquake. The fact that the same objects figure prominently in reports of previous earthquakes also (vide groups B and C), in other words, the fact of their reappearance in different earthquake situations, shows that the association must be strong. It seems to be a consequence of the attitude arising in earthquake situations. Because an earthquake is a physical phenomenon, people's attention came to be selectively directed to certain physical objects and their behaviour. This illustrates the functioning of the principle of congruence, because the attitude created a responsiveness to objects which had the qualities of fitness with its own pattern. In short, the framework of the attitude defined or prescribed a range in the stimulus field containing only those objects which, on account of their congruence with the attitude, acquired special stimulation value. They were, therefore, selectively responded to. The process is similar to that by which the condition of hunger gives a heightened stimulation value to objects which serve as food.

The reports have also a form or pattern which is derived from the fourfold pattern of the attitude mentioned in the last section. In the first place, we find that all of them figure in one common pattern of destructiveness, because this is the common theme of these reports. Capital towns were reported to have been destroyed and submerged, and large numbers of human lives lost. Cyclones, floods and fires are the directly destructive forces of nature. The disappearance of rivers means their destruction. The disappearance of all springs in Mecca, where water is so scarce, implies a serious threat of destruction to human life. When people ran up to catch fishes left on the bed of a river from which all water had disappeared the water suddenly surged back upon them, and they all perished. Hills fell down or broke and caused damage and destruction. Eclipses, comets, constellations of planets and rains of blood, though not forms of destruction by themselves are, nevertheless, signs which mean destruction according to traditional beliefs and superstitions. The reports about the ape-like animal are also congruent with the common theme of destruction. Their symbolic meaning should be interpreted in relation to the catastrophic situation of the earthquake. Jung, who holds that symbols are inherited in the collective unconscious of all, himself points out that their meaning should not, however, be regarded as something

fixed in the manner of Freud. He suggests that it is advisable 'to look for the meaning of symbols as they relate to the conscious situation' (10). This ape-like animal, who attempted rape on women, bit off their breasts, and devoured little children (see Table 9) can be held in the situation to be a symbol of destruction, if we interpret women symbolically as the source of continuation of the human species, breasts as the source of their biological sustenance, and children as the growing human race. Finally, the reports about the coming of the total deluge or end of the world, and the day of judgement, carry all the stories of destruction to a full and final conclusion. It is quite clear that because all these fictitious reports represent nothing but destruction, actual or imminent, they derive their form from the profound sense of frustration, anxiety and insecurity, which constitutes the emotional pattern of the attitude and supplied their motivating force. The principle of congruence with the attitude is again illustrated in the formation of the general pattern of these reports.

In the second place, the non-rational thought-pattern of the attitude was also expressed in these reports. The statements made about the manner of the destruction of things and their behaviour were extraordinary and contrary to the known laws of nature. Non-correspondence with reality and a certain mysteriousness in the behaviour pattern of things are the main features of the reports. Rivers disappeared so completely as to leave bathers embedded in sand beds, and to make it possible for people to walk across. In another case, the river receded to a distance of 1 day's journey, but the water came back upon people so quickly (when they went to catch fishes left on dry land), that none could escape being drowned. Similarly, the flying of a rock to a distance as far in the sea as the route of ships; the falling of stones from the heavens, and one of them setting a tent on fire; the flying up of a whole village with all its houses and inhabitants, its remaining suspended in mid air and then falling and sinking into the earth; fires coming out of the earth, the rain of fire, the rain of blood, the appearance and behaviour of the ape-like animal, etc., are fabulous reports about things which cannot be believed by people in a normal state of mind, to have happened anywhere in any circumstances whatsoever. There is something obviously mysterious too about such alleged occurrences. They excited wonder and found prevalence partly for this very reason. The question of correspondence with anything real and objective does not even arise, because the absence of structurizations in the stimulus field left the internal attitude, once aroused, free to impose any structurization that was congruent with its own peculiar patterns. This shows that thought functioned in a freely compensatory way by supplying forms and patterns where none could be found objectively in the situation.

Finally, many of the rumours are also based on a good deal of the traditional culture pattern. Since the mysterious phenomenon of the earthquake, and the arbitrary and senseless destruction caused by it, could not be understood in terms of the concepts and values of the more modern part of culture, the attention of people reverted to the relevant myths, legends, traditional beliefs, and superstitions, which, in the more normal and stable conditions of life, are more or less ignored and neglected. The functional value of the ancient part of culture rose once again and assumed importance by lending meaning to, and creating structurization in, the otherwise unintelligible situation. The Puranas mention three kinds of 'Utpāta' or calamities, namely, terrestrial, atmospheric and celestial. The Brihat-Sanhita describes them elaborately; earthquakes, fissures in the earth, drying up of river beds, floods, etc., all of which figure as contents of the rumours,

are associated as terrestrial calamities. Cyclones, storms, hurricanes, and darkness, about which also a number of reports are recorded, are atmospheric disasters. Eclipses, comets, congregations of planets, with which many of them are concerned, are celestial calamities, which are held to be signs of destruction, and figure prominently in popular astrological beliefs. Rain of blood is mentioned in the great epics of Valmiki, Ramayana and Mahabharata to have occurred at the time of the vast destructions of war. The Garga-Sanhitá also writes about clouds raining blood at the times of great crises. It is interesting to add that the *Vishwamitra*, a periodical journal written in the Hindi language, brought out a special issue called *Pralaya* (total deluge) in March 1934, i.e. two months after the great earthquake of January 1934, and mentioned balls and columns of fire in the sky, eclipses, comets, congregations of planets, rain of blood, among other things, as signs of disasters, and defended the popular belief in them as evil omens by quoting instances of past calamities occurring along with them. The rumours given under table 3 in group A about the wrath of the deity of the Himalayas furnish a further illustration of the thesis that failure to understand the mysterious phenomenon of the earthquake was compensated for by resorting to the mythical ideas of ancient culture, whereby some sort of structure was created in what appeared to be a vague and structureless situation. The forecasts of *Pralaya* (total deluge) and the nearness of the Day of Judgement, i.e. the end of the world, were derived from the popular belief that some day the present world will come to an end quite inevitably in the cycle of destruction and creation, and a new and better world will take its place. That misfortunes, sufferings and calamities are punishments for sin and social evils has also its basis in the common beliefs of people, and serves as some sort of explanation of the disastrous earthquake in terms of cultural norms and values. The view that they are projections of some ever-present guilt or anxiety is unnecessary, when we find that the common belief that sinful and evil practices must lead to disasters has always been there in the cultural environment of the people.

VIII. RE-APPEARANCE OF CONTENTS AND THEMES

The second problem, mentioned at the beginning of this paper, is that of why the same types of rumour or reports occur again and again whenever disastrous earthquakes occur. A comparison of the data, classified in groups A, B and C above, shows, as mentioned already, that there are striking points of similarity, both in respect of content and of form. Many of the rumours in group A may be said to be the 're-appearance' or repetition of things of the same kind as those which are found in reports of past earthquake situations at different times and in different countries. Therefore they appear to be recurrent patterns of responses in recurring social situations of crisis. It may be urged that just as certain type-dreams and type-fantasies repeat themselves among people of all countries and all times, there are also 'type-rumours' which arise again and again irrespective of place and time differences. This raises the question of what source supplies the content and form of such rumours.

A plausible answer is readily available in Jung's theory of the collective unconscious. His own writings contain two kinds of views of the collective unconscious, which we may distinguish as the 'structural' and 'functional'. The structural view sees it as something like a 'storehouse' of racial memory traces. Primordial images, archetypes, the themes of myths and legends, superstitions, etc., are supposed to persist in it, as psychological contents, by way of biological inheritance of the experiences of our prehistoric ancestors. Under certain conditions, such as emotional stress or regression of the libido, they are

pushed from the depths on to the surface of consciousness. 'The fact of this inheritance', writes Jung, 'explains the really amazing phenomenon, that certain legends and themes repeat themselves the whole world over in identical forms' (2). Again if we regard the mental condition of the whole group of people affected by the earthquake crisis as a sort of 'group neurosis' on analogy with individual neurosis, then the re-appearance of contents and themes in earthquake rumours and their historical parallels would be something remarkably similar to the fact that, in Jung's words, 'mentally diseased patients can reproduce exactly the same images and associations as those we are familiar with in old texts' (2). Such reproduction of the self-same images, etc., in other words, psychological contents, is regarded by Jung as evidence that they are inherited. This would, however, make the collective unconscious a sort of 'store-house' of psychological contents and 'traces' of racial experience. But Jung's argument is faulty. He argues from the similarity of the contents and themes to their universality, and finally from the universality to their inheritance, which, he asserts repeatedly, is the real explanation of the similarity. The point at issue is the cause or explanation of the similarity. If inheritance is the true explanation, it should rule out the probabilities of an alternative explanation. For instance, his theory must rule out that the contents and themes could have ever 'passed into' the human mind by social learning, or could have been 'constructively' adapted from the existing socio-cultural environment in justification of an attitude of mind developing under the stress of a very unusual and difficult situation.

But it is fairly certain that an alternative explanation, which we are going to offer, cannot be ruled out, and that it is considerably more applicable to our data. The psychological material which might be supposed to persist in the mind by transmission through heredity, is contained, as a matter of fact, in the prevalent tradition, culture, beliefs and superstitions of the general mass of people. All individuals, at some point or other, in the long process of culturization in their social environment are confronted with such elements of the older part of culture. The probabilities of acquiring them are definitely much stronger than those of inheriting them. A good deal of what Jung's theory would place in the collective unconscious can really be found in the social culture of the people. Instead of resorting to the theory of biological or brain inheritance, we must acknowledge the fact of cultural and social inheritance, because we find that the contents and themes of rumour are practically all there in the beliefs and traditions of the people.

But their mere presence in the cultural heritage, and even the contact of individuals with them in the process of culturization, would not be a sufficient explanation of their active utilization in rumour. It is admittedly true that during the normal conditions of everyday life, the older elements of culture, namely, traditions, mythical beliefs, superstitions and legends, etc., are of no value in practical adaptations. They are ignored and rather despised as unworthy of the intellectual standards of cultured people, and pertaining only to the 'uncultured' ignorant masses. Nevertheless, the wide prevalence of those fantastic rumours shows that under conditions of stress there was a general reversion to the 'despised' beliefs of the masses. Such reversion strongly suggests that certain peculiar tendencies or attitudes which favoured increased responsiveness to the contents and themes of those beliefs had come into operation with the change in the situation from normal to critical. Instead, therefore, of holding that they were 'drawn' from the collective unconscious as though from a storehouse of inherited psychological contents and themes, we believe that it is a simpler and more straightforward explanation to say that they were picked out of

the physical and cultural environment by the attitude to which they were congruent. As regards the recurrence of the contents and themes in rumours and their parallels from historical records (groups B and C), these can be readily explained as due to the recurrence of the attitude in question with the recurrence of similar catastrophic situations.

Evidence of the similarity of attitudes in similar situations of earthquake can be found in recorded descriptions of the experience of earthquakes by competent observers. For instance, William James's account of his experience of the famous San Francisco earthquake of April 1906 (contained in his *Memories and Studies* as quoted by Bergson in French translation) shows the presence in him of an attitude essentially similar to what we have been describing. He writes to the effect that the earthquake appeared to have an 'intention', it was 'perverse' (i.e. arbitrary); it had got it into its head to 'destroy'; it showed its 'force' or power, etc. He also refers to a general impression formed by people that it was the end of the world, or the beginning of the Day of Judgement. Further, introspecting what he felt within himself to be the 'cause' of the quake, he says that for him the perception of its cause as a 'living agent' (as distinguished from the scientific explanation) was irresistible. He then remarks how inevitable was the mythological interpretation of catastrophes of this kind by the ancients, and that it is simply impossible for the uneducated to understand the earthquake otherwise than as having 'supernatural sanction' (8). All these statements imply that the earthquake produced an attitude which involved an emotional pattern of insecurity derived from its destructive and arbitrary behaviour, a non-rational thought pattern from its mysterious and supernatural significance, and a cultural pattern from the mythological interpretation referred to by James.

Rumours prevailed in San Francisco also as a result of the earthquake. James did not record and discuss them. But Allport & Postman (4) mention and discuss four of them. Three of them, reproduced below, are very similar to the stories of destruction in general, and of capital cities in particular, and of the depredations of animals:

(1) A tidal wave had engulfed New York city at the same time as the San Francisco quake (cf. Table 5, group B, no. 2, and group C).

(2) Chicago had slid into Lake Michigan (cf. Table 6, groups A, B and C, nos. 2 and 3).

(3) The quake had set loose the animals in the Zoo, and these were eating the refugees in Golden Gate Park (cf. Table 9, groups A and C).

From our point of view we lay stress on the recurrence in them of the 'theme', namely, of a common destruction, and of the 'contents', such as capital towns and animals; and we invite attention to the question of why this selective responsiveness to them was displayed through the rumours, making them similar in essential respects to some of our own data. The answer lies in the fact that this was due to the functioning of an attitude during the San Francisco earthquake in ways similar to those of the attitude called forth by the earthquakes at other places and times. James's account of his experience of an earthquake is very suggestive of the nature of the underlying attitude. Allport and Postman's instances of the rumours indicate definitely the influence of that sort of attitude. When these two authors comment on those rumours by observing that 'the chain of associations is simple: one big city has been destroyed, why not others', and further, that 'Metaphorically they were saying "things just couldn't be more horrible"', they really betray in their comments the operation of that kind of attitude which we have been emphasizing.

On this question of recurrence of the attitude we may give an interpretation of Jung's casual reference to his own experience of an earthquake. He writes, 'Once I experienced

a violent earthquake, and my first, immediate feeling was, that I no longer stood on the solid familiar earth, but on the skin of a gigantic animal that was shuddering beneath me. It was this image that impressed itself, on me, not the physical fact' (11). This reminds one of James's 'living agent' as the cause of the earthquake mentioned above. If Jung had given a fuller description of his experience, it would have been a great advantage to our study. But as it stands it is used by him as an argument in support of the arousal of an archetype. The simple question is whether the appearance of the image is an instance of the arousal of an archetype. Our own interpretation is otherwise. It was an instance, of a well-known psychological fact, that image processes commonly arise which bear no strict correspondence to the stimulus process but supplement it, or supervene upon it, from past experience. We find this in everyday perception, recognition, etc., as a process by which meaning is lent to a stimulus-object. But it would still remain rather extraordinary that, of all things, the image of a gigantic animal should arise. Nevertheless, it is sufficiently understandable. If we consider the fact that Jung is so fully conversant with the ancient mythological literature of so many cultures and people, we cannot discard the probability that the arousal of the image of the animal was a consequence of his knowledge of the mythological interpretations of earthquake in many ancient cultures. In other words, it was the result of a culture and its related thought-pattern which must follow from such knowledge, rather than the invasion of an archetype. Thus, we come back, once again, upon the recurrence of a similar attitude on the recurrence of a similar situation.

SUMMARY

1. Earthquake rumours and their parallels in historical records of earthquake cannot be properly explained as projections of mere emotional tensions, of complexes or of archetypes.
2. Although rumour, as a judgemental response, is almost invariably an exaggeration or fabrication, and unworthy of belief, it nevertheless arises and spreads almost inevitably in certain circumstances, particularly of a catastrophe.
3. A reasonable explanation of such a remarkable psychological fact cannot be found except in the nature of the situation and the particular patterns of attitude developing in relation to the situation. The characteristics of the situation and of the related attitude have been discussed in some detail.
4. On the side of the 'internal' mental conditions there was the attitude with its emotional pattern, a non-rational thought-pattern and a culture-pattern. On the side of the 'external' environmental conditions there was the lack of the well-formed patterns and adequate structurization which normally exercise a coerciveness on thought processes. When two such conditions combine, fantastic rumours are produced. The chief positive determinant of rumour is the attitude functioning in the situation.
5. The question, therefore, of why rumour acquires the content and form which it has in any given case, is answered by the proposition that whatever may be 'congruent' with the patterns of the attitude are selectively constructed or adapted from the environment, particularly the cultural heritage of the people.

Rumours, therefore, resemble the picture-completion tests rather than the projective tests, with the difference that while in the test situation the relevant parts of a picture are provided for exercising a choice, in the earthquake situation they are not. The attitude, however, solves the problem. It 'draws' such materials from the external socio-cultural

surroundings as are congruent with its patterns. The relation of congruence between attitude and material, or function and content, is of very great importance, and deserves to be more thoroughly investigated.

6. The reappearance of contents and themes is understandable along the same lines, that is to say, as the effect of the recurrence of a similar attitude in a similar catastrophic situation. Such reappearance is not evidence of the existence or inheritance of images and archetypes in the collective unconscious.

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HOW ADOLESCENTS THINK OF PEOPLES. I¹

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I. INTRODUCTION

This paper is based upon interviews with 120 Secondary Modern schoolgirls between the ages of 11.1 and 15.0 years. A random sample of ten was drawn from each of the three streams, A, B, and C, for each of the four age groups, 11.1-12.0, 12.1-13.0, 13.1-14.0, and 14.1-15.0 years.

All the girls attended the same school and lived in or near the town of C. A similar sample of Secondary Modern boys has been interviewed and will be reported upon in a later paper. Samples are also being taken from Grammar and High schools.

All the interviews were conducted in private and in school by the same interviewer and were of the unguided type. There was no schedule of questions. Such questions as were asked, arose out of, and served to amplify and elucidate, what had already been said. The interviewer wrote down all relevant statements at the time they were made.

It was essential that the girls should be at ease, communicative and not dominated by considerations of defence, display and the like; and that they should talk spontaneously, constrained as little as possible by adult ideas, adult vocabulary and adult standards of logical fitness and completeness. It seemed to us that our procedure secured these things as far as they can be secured at present. (It also reduced the problem of ambiguity to that of understanding what the interviewee said and eliminated the effect of differences in ability to read and write.) If it be objected that external standardization is lacking, it may be replied that a high degree of internal standardization was attained and, what is important, knowledge, in the individual case, of the degree of success or failure in this respect. After all, the purpose of standardizing the external situation is to secure uniformity of task and of attitude to the task. If, as here, the demands of the task are less rigid than in some other fields, such as the perceptual, then it is surely a mistaken policy to insist on rigid and uniform procedures, especially when they neither guarantee spontaneity and communicativeness, nor indicate to what extent these are present. It is perhaps not too much to claim that in some fields uniformity of procedure may hinder the development of suitable attitudes towards the task and the setter of the task.

Procedures are needed which combine the advantage of both internal and external standardization; but if a choice has to be made, then the real disadvantage of our procedure, as indeed of all projective procedures, namely, the high time-cost of obtaining and treating the data, is a small matter compared with the fundamental weaknesses of such

¹ This investigation was made possible by a grant from UNESCO.

procedures as the questionnaire, oral or written. Both kinds of procedure are, of course, inferior to that of the controlled experiment; but in a field in which facts are few and opinions many, reconnaissance must precede experiment. In such a field the more flexible procedures aiming at co-operativeness in attitude and freedom in expression are, in our opinion, preferable to those which enforce a rigid schedule of questions and dispense with control over and knowledge of attitude.

II. THE INTERVIEW

At the beginning of the interview a brief explanation was given to the child, in the following terms: 'I have come to see you because the United Nations Organization (of which you may have heard) is interested to know what children have found out about other countries and the people who live there. I don't mean that this is a Geography exam. It isn't, and I'm not a teacher or an examiner or anyone like that. I'm just an ordinary sort of person like yourself, and I know you may have found out about these things not only in school but from what you do outside school, too.' This was said in as informal and friendly a way as possible.

The investigator then asked the child to tell her a little about herself first of all, so that they could get to know each other a little better. In this way pointers were obtained to the child's social background, e.g. where she lived, her father's occupation, whether she had lived all her life in this town, how far she had travelled and what she saw on her journeys—the places and people—and what she thought and felt about all this. This usually had the effect of making the atmosphere still more friendly.

When in such ways *rapport* seemed to be established, the investigator led the conversation back to the subject of the inquiry. Usually this was easily and naturally done from the last subject of discussion. Often the child took over at this point, and once she was launched, all that the investigator did thereafter was to convey interest and sympathy with what the child had to say, while avoiding suggestion of any sort, asking only those questions which might be necessary further to elucidate the child's meaning.

Within the bounds of relevancy the child, once under way, was allowed to talk quite freely and at length. In cases of irrelevance she was only brought back to the point gently and naturally, and at some convenient stage in the conversation. She was never interrupted or subjected to any obvious guidance.

So the child was allowed to 'talk herself out', and so far the length of the interviews has varied from 1 to $1\frac{3}{4}$ hours. The interviewer explained to the child that she was making notes of the conversation so that she might not confuse one child with another, and so that she might think about it afterwards. This explanation seemed to be readily accepted, and the great majority of the children seemed to enjoy the interview. Some said so, others showed it in their demeanour, or by their refusal to interrupt the interview when playtime came, though they were always given the opportunity to do so.

III. ATTITUDE CHANGES

When we regard people as standing in a harmful or beneficial relation to ourselves and ours, then thoughts and feelings, statements and acts appropriate to that relation are mobilized.

Such a complex of activities directed towards its object can be spoken of as an attitude. The term is, however, sometimes used to refer to the more permanent mental structures which, jointly with particular situations, determine such activities.

Attitudes towards social groups arise from and reflect, often in a distorted form, the relations between social groups. The English attitude towards the Germans six years ago reflected the relation of war between the English and German peoples. As a product not only of the war situation but also of the passions aroused by it, the cognitive pattern of the attitude tended to go beyond the facts of the situation. The Germans were regarded not only as enemies but also as evil and evil-looking, as fierce and threatening, as cruel and fond of fighting. All Germans were thought of as alike. Further, the uniformity of the motives and mental processes involved tended to make the cognitive pattern alike from girl to girl—a standardization carried still further by conversation and cinema, press and radio. In the end not only did all Germans tend to be thought of as alike, i.e. as conforming to a stereotype, but the stereotypes tended to be substantially the same from one English girl to another.

But if such an attitude is born of a war, what happens when the war ends? Does it die, change or persist? Table 1 gives a partial answer to this question.

Table 1 A. *Frequencies*

	Favourable	Undecided	Unfavourable	Totals
Americans	88	13	5	106
Negroes	75	22	10	107
Indians	37	8	12	57
Italians	26	8	10	44
Germans	71	24	19	114
Japanese	2	6	56	64
Chinese	36	28	18	82

Table 1 B. *Percentage frequencies*

	Favourable	Undecided	Unfavourable	Totals
Americans	83.0	12.3	4.7	100.0
Negroes	70.1	20.6	9.3	100.0
Indians	64.9	14.0	21.1	100.0
Italians	59.1	22.7	18.2	100.0
Germans	62.3	21.5	16.2	100.0
Japanese	3.1	9.4	87.5	100.0
Chinese	43.9	34.1	22.0	100.0

Explanation. The above tables refer to ratings of the girls' statements about the various peoples. For instance, a girl's statements about the Americans would be rated by the investigators as falling into one of the three categories given above. The total 106 in the case of the Americans means that 106 of the 120 girls indicated their attitude towards them. The other fourteen either did not mention them or did not indicate their attitude.

Table 1 shows the frequencies of 'favourable', 'undecided', and 'unfavourable' attitudes towards the seven most-often mentioned peoples. Three of these the Germans, the Italians and the Japanese, had been enemy peoples. Yet whilst the Germans and the Italians are not too unpopular, the Japanese are very unpopular. Rather surprisingly the war attitudes towards the Japanese have survived better than those towards the Germans, in spite of the much greater size, nearness, obtrusiveness and duration of the German threat. That the difference is not to be ascribed solely to physical differences such as colour is clear from an inspection of the figures for the Indian, Negro and Chinese peoples.

Attitudes can, then, persist when the social relations which engendered them have changed. But they may change. Why has change occurred in one case and not in another? What are the conditions which make for change?

It will be helpful to begin by considering the girls' statements about the Germans. These statements fall into three groups—'unfavourable', 'undecided' and 'favourable'.

These groups can also be considered as representative of three stages: the first, that in which the attitude established during the war substantially persists; the second, that in which the war attitude is seriously challenged by a new attitude; the third, that in which the new attitude has prevailed. The first example shows quite clearly the first and third stages as well as something of the process of the change.

S.1, 14.FA.2.¹ 'I've spoken to a German P.O.W. who came to dig our garden. He was all right, but different from what I'd expected Germans to be. (I'd only seen Germans on the pictures before that.) I thought the Germans were worse than that—nasty, fierce people—because of the war and Hitler. But this one was nice, sociable to speak to—he used to come to our house when he could after that, because we got to know him. I liked the way he spoke to you as though he took an interest in you. He said he liked English people and I think he would have liked to stay here, only he had to go back to see his family.

By the way he talked about England and the English people, he thought they had a better life and he would have liked to stay. So after I'd met him I thought all Germans couldn't be bad—the majority of them as nice as him. I think now that probably most of them were forced to do what they did by Hitler and his men. In the newspapers you hear so much of the way Hitler forced people either to do what he wanted or be killed.

So it wasn't the ordinary German's fault. I think we should forget the war and make peace with all the countries so that there'll be no need for war or anything like that.'

In this example the war pattern is clear. Clear, too, is the clash between that pattern and actuality.

A new pattern had emerged, modelled on her experience of this particular German, and this was applied to all 'ordinary Germans', 'the majority of Germans'. But though the old pattern was no longer believed to be applicable to all Germans and could no longer evoke the old dislike for Germans in general, not all of its foundation could be swept away as fiction. The war had been a fact. If the majority of Germans were like her German friend, nice, sociable, liking and admiring England and the English people, how had the war come about? The answer was that the majority of Germans had been forced to go to war by Hitler and his Nazis. The old pattern was firmly restricted to Hitler and his Nazis and the old emotional attitude directed towards them. This allowed both a new pattern and a new emotional attitude for the ordinary German. Two otherwise conflicting patterns and attitudes were reconciled in a larger organization. The immediate cause of change was clearly the experiences involved in personal contact with a German.

But the other conditions of change should not be forgotten. The end of the war had relaxed not only the restrictions upon the Germans' movements but also the war situation which compelled an attitude of hostility. In the new situation personal relations could develop between German P.O.W.'s and their English neighbours to an extent and in ways that had previously been out of the question. English and Germans not only worked and

¹ S.1 is the serial number of this quotation in this paper. The use of such a number makes reference backwards and forwards in this paper more convenient. 14.FA.2 identifies the interviewee as number 2 (second in order of interview) in the A stream of the 14-year-old (more exact 14.1–15.0) group of girls. Similarly, S.2, 12.FC.8 means that the second statement or extract was made by the interviewee eighth in the C stream of the 12.1–13.0-year-old group of girls. Each statement contains all that the interviewee said about the people in question. Whilst this lengthens the quotations, it removes the misunderstanding that might arise if only part were given.

talked together but even became friends. English girls went out with and married Germans. Some Germans settled down in the district. Some people spoke well of them. It was in a changed social setting that personal relations and even the mere sight of Germans wrought so powerfully upon the attitudes of some.

But although peace favoured new and friendlier relations, it did not compel them. Much depended upon the circumstances of contact, much upon the individuals concerned. In the case of these young girls much depended upon the family attitude. Clearly in the statement quoted the family had been favourably disposed. The German who had come to dig, became a friend. Without some such change in the family's attitude, personal relations would have been far less easy to establish and maintain. As we shall see, not all families made things easy.

It should not be overlooked, however, that within the more favourable or more permissive social setting it was the experiences of personal relations and observations which had changed the family's attitude.

IV. PERSISTENCE OF ATTITUDES, UNFAVOURABLE STATEMENTS

The next statements are from girls in whom the war attitude persisted, more or less unchallenged.

S.2, 12.*FC*.8. 'I've seen the German P.O.W.'s, but Mummy said I wasn't to speak to them because in the war our house got bombed right down, and Mummy said she'd never forgive them. And she said if I spoke to them, they might take me somewhere and do me harm. Most of those I saw looked bad men. They had kind of a funny look on their faces. Their clothes helped to make them look funny because they had all patches on. They looked rather sly and watching you as if they was going to hit you, when they looked at you. I didn't see any nice ones at all.'

S.3, 13.*FA*.8. 'I've seen the German P.O.W.'s but never spoken to any. I don't like the look of them—they're not as nice as the Italians. They always seem to be sneering at you! I've seen different lots all over the place and they always seem like that. It seems as though they think we're not so good as them. I shouldn't like to go out with one (though you see plenty of girls out with them). They seem too cruel—because of war, I mean, and what you heard about what they did then. They seem just like the tales make out, to me, and I didn't like them at all.'

S.4, 11.*FA*.2. 'I've seen German prisoners working in the town and Father's worked with some. I don't think they look very nice people. I think it's because they're Germans—because of the war that I can't like them. They all seem horrible to me. Mother and Father have told me about the bombing (I was too young to remember it), and I've seen on the pictures about what the Germans did. I've seen the Concentration Camps. I don't want anything to do with the Germans after that.'

S.5, 12.*FB*.2. 'I've seen German P.O.W.'s but I didn't like them, so I didn't speak. I was frightened they might take me away. Mummy told me never to speak to them. And our dog kept running to the German camp and I had to keep going for it, and once when I went, a German said to me: "If you come here again, I'll keep both you and the dog here!" But I was frightened and I never went there again. I don't think he meant it, now, but I did then. But after he'd said it he began to laugh. Mummy doesn't like them because of the war, and neither do I, and neither does my Granny, or the lady next door, or the lady over the road—all 'cos of the war—we don't like 'em.'

S.6, 12.FB.4. 'I've seen foreigners but not spoken to any, though a lot of German P.O.W.'s were billeted near us. I didn't want to speak to them, myself, because they were Germans and I didn't know what they were going to do. They used to come in the park and play with the children and a lot used to speak to them, but I played with them all and laughed, but never spoke. Some looked quite nice, I must say. But I didn't think you could go by that. It's what I've heard about them. They used to kill a lot of children and even made their own children go to war when they were very young. I read it in the paper [*Daily Mirror* and *News Chronicle*]. I suppose you can trust some, really, but others I thought looked as though they would do those bad things. So I never would speak to them.'

S.7, 11.FA.6. 'I've seen some Italian P.O.W.'s. Some children were playing round near their lorry and they made friends with the children—smiling at them. But I didn't seem to like them. I don't know what there was about them. They had nice expressions and acted nicely. Only they'd been our enemies. I think that was why.

I've never seen any Germans and in my mind I think I'd never like them, because of the war—or perhaps I might like them when I'd known them a long time, but I don't like them now. I've read in the newspapers and heard on the wireless that the Germans used to kill women and men and take the children away and force them to do things in other countries near Germany. And the Italians did the same. So I don't like either of them.'

Consideration of these statements shows not only something of the character of the war attitude but also something of the ways and conditions in which resistance to change had succeeded.

In S.2, 3, 4 and 5, the family and sometimes the neighbours remain hostile. Mummy and Granny and the lady next door and the lady over the road are a large arc of a 12-year-old girl's social circle. When, in addition, the parents recall the war emotionally by rehearsing the most grievous counts against the Germans, the bombing of the home, the killing of children and other atrocities, no wonder the Germans 'looked bad men', 'rather sly and watching you as if they was going to hit you, when they looked at you', or 'just like the tales make out'. No wonder that a joke is taken for a threat. And the embargo upon speaking with the Germans removes almost the last chance of personal relations.

In S.2, 3, 4 and 5 the war attitude remains intact. In S.6 there are signs of challenge. The Germans are not all thought of as alike. 'Some looked quite nice, I must say.' The war attitude was not only unable to control perception and interpretation, it was unable to prevent some personal relations. True, though the girl played and laughed with the P.O.W.'s, she did so without speaking. But war memories have to be revived in order to maintain the war attitude.

S.7 is included partly as one of the very few cases in which the Germans had not even been seen, partly to bring out the effect upon the war pattern of observation without personal relations. Clearly it is difficult to reconcile the appearance and actions of the Italians with the war pattern. It is interesting to note how the revival of the more intact German war attitude strengthens the Italian war attitude so that the girl ends on a more hostile note than she began.

V. ATTITUDE CONFLICTS, UNDECIDED STATEMENTS

The 'undecided' cases are practically never cases of neutrality or indifference; they might be described as cases of undecided conflict or of ambivalence. In them the conflict between the old and the new is unresolved.

The conflicts take various forms. Sometimes there is an alternation of the two attitudes, sometimes the two attitudes seem to exist side by side. Sometimes there is an alternation of assertions of the war pattern and of discrepant observations and considerations. Sometimes the conflicting attitudes are embodied in Germans who are liked and in Germans who are disliked (S.10, 12, 13). Sometimes the attitude towards the same persons changes, as when the new attitude seems to be gaining ground and then is suddenly replaced by distrust (S.8, 9, 11). The conflict is very clear in S.12. Here the two attitudes are personified in different Germans. The good Germans look nice and kind; they behave accordingly; they not only talk but talk about their homes. (Talking about one's self, one's family and private affairs guarantees for these girls the sincerity and good intentions of the speaker.) The bad ones scowl and look angry; they are untidy and won't speak; they are frightening and not to be trusted; they make you think of the war.

The fact that not all Germans are thought of as alike indicates that the old attitude is faltering. The admission, based upon observation, that some Germans are good, is a step further. Still another step is the use of non-observational arguments, namely, that they were made to fight (S.10), that they like the English and their way of life (S.13), that the parents like them (S.13), and so on.

The basis of the conflict is clear. The old attitude is still strong, yet the new social situation and its opportunities, changed adult attitudes towards Germans, observations that cannot be explained away, experiences of fortunate personal relations, sustain an opposition that cannot simply be overridden.

S.8, 14. *FB.10*. 'I saw the German P.O.W.'s. In some ways I like them and in others I don't. I like them because they seemed all right, no worse than ordinary English people—in spite of what I'd heard about them. I'd expected them to look sly and cunning, but they didn't. Just looked like anybody else. But I didn't like them going about with English girls and lots of them up our way were like that. (We had a P.O.W. camp near us.) After we'd been at war with Germany, I didn't think the girls should have been friendly and I don't think people should have invited them to their houses. We shouldn't have been friendly to them. We might make them think they could get away with anything. They should have been made to feel that we didn't like them for what they'd done. I don't trust them. I can't be sure they wouldn't do it again if they had the chance. And being friendly with them only makes them think they could get away with it again, and we'd still be friends with them after. If they'd spoken to me, I'd just have answered them, then passed on. No more.'

S.9, 12. *FC.5*. 'German P.O.W.'s used to go past our house and Mummy said she didn't like me talking to them when I spoke to one (but I couldn't understand him). She didn't say why, but I think it was because she never likes me to speak to strange men. She's always telling me not to. They were good-looking and I think they were nice people. They didn't look as though they'd do bad things. I didn't know they were Germans until Mother told me—you only know by their speech. They look like other people, and I think they're as good as other people. Only they came over with bombs during the war and I'd never be sure they wouldn't do it again. They might.'

S.10, 13. *FA.1*. 'I've seen a lot of Germans too, P.O.W.'s. I said Hello to them when they say it to me (they usually do), but no more. I don't think it was their fault! I feel sorry for them—away from their homes. They had to fight. Hitler made them. But my father and Mother said they'd rather I didn't speak to them. But I know my Mother felt sorry for them, because she used to say so, sometimes. But some I'm not sorry for, because

they've got a look of hate in them! As if they don't like you, when they look at you. (They don't say Hello, them ones.) I expect those are the ones that did want to fight us. So I think the Germans are mixed, and I like some, but not others.'

S. 11, 12. *FA*. 2. 'Some German P.O.W.'s spoke to us, but I didn't understand what they said, but we used to wave to them as they went by. Some I liked, but others didn't seem to be very friendly. If you spoke to them, they didn't answer and turned away. Perhaps they couldn't speak English, but at the time it seemed as if they didn't want to be friends. But some used to play with us, when they were waiting for the lorry to take them back to camp; they would chase after us and try to catch us. Very nice. But not quite so nice as the Americans, who seemed more friendly. But I think that with the Germans it was just the feeling I had, most of the time, that they'd fought us during the war. I didn't hardly ever forget that, even when they played with us, except for a few minutes, when you got excited with the game. But then you'd remember it again. But those we played with were nice kind people, I thought. But you've always got the feeling that they might turn on us again, however friendly you got with them, because they've done it before. Some might not want to fight again, but others would.'

S. 12, 11. *FA*. 4. 'I know some German P.O.W.'s. One's married an English girl and lives next door to us. He's rather nice—quite nice-looking and very pleasant. But some I've seen don't look very nice and make me think about the war. One offered me a toffee but I wouldn't take it. I thought he might grab my hand and pull me away, if I did, so I didn't put my hand out. (My Father's told me not to speak to strange men; and he was a German too.) Those I don't like it's the expressions on their faces—some look angry and don't smile. I used to be frightened of them, but a lot have gone back now. My Mother and Father told me about the war. About the bombing I remember. When the siren went we all went in the shelter and my Father went outside. And I've heard about it on the wireless—doodle-bugs and raids and my Mother told me about my Granddad who was a Lt.-Commander in the Navy and he chased a German submarine with Germans in it, and there was a long article about it in the paper. I've seen Hitler on the pictures too, Saturday mornings, shouting out to people. But I think some Germans are good. But some are bad. The one next door to us is good, and you can tell by their faces. The good ones look kind. The bad ones are like those scowly ones and have untidy looking hair, sticking out. Quite a crowd of us used to watch some who were building houses near us and they used to speak to us, and they were mostly the nice kind. One showed me a locket with his Mother's photo in it. The nice ones always spoke to us. The others looked grumpy and didn't speak to us.'

S. 13, 11. *FB*. 2. 'I've spoken to some German P.O.W.'s who were working near us. They were very nice to us, they used to talk to us and make us things—toys and slippers. They said they liked England and didn't want to go back. They said people were nice here, and kind to them. Dad worked with them and he liked them—said they were jokey and sporty. I liked them all. Some looked strong and rough and then I'd think of the way they used to fight us. But I never said anything to them because I didn't like. But those I knew best weren't rough.'

VI. ATTITUDE CHANGES, FAVOURABLE STATEMENTS

The 'favourable' cases are those in which all Germans, or all Germans within a certain category, are regarded favourably or in which, maybe with reservations, the balance swings in their favour. In many cases there are traces of conflict, but usually a personal,

adequate defence has been set up against further outbreaks. The commonest solution is to divide the Germans into good and bad, into war-makers and lovers of fighting on the one hand, and those who didn't want to fight or were too young to know what they were doing on the other, into Hitler with his Nazis and the ordinary Germans. Supporting arguments are often required, such as that the Germans are really just like English people, that they are like England, the English and the English conditions of life, that they want to stay here, that other people like them, that they can be trusted, and so on.

Such arguments betray the persistence of the old attitude whilst at the same time they help to keep it in check. A pattern has been worked out which enables some or even most Germans to be liked without conflict with the war attitude. The old hostility is concentrated against the leaders, against Hitler and his Nazis, against those who won't speak and who look like bullies, or even against those who haven't come to England and haven't been seen.

S. 14 is an illuminating example of such a pattern. There are the good Germans who had been accepted into the family, who had talked about their private affairs, who hadn't wanted the war, who were too young to be blamed for it and in any case were not the sort to have committed atrocities. And there are Hitler and his war-makers, the fierce and unfriendly-looking P.O.W.'s and the German Auntie! Even this classification is covered by the division of the Germans into ordinary working-class Germans and those who are better off! Such a construction, perhaps because of its oddness, illustrates the method very clearly.

S. 15 is able to get off more cheaply. All the Germans she has met looked incapable of having even been their enemies, let alone of having been capable of cruelties. She does not deny that there are such Germans. But they didn't come her way.

S. 16 is more ambivalent. But the conflict is not troublesome. The conflicting elements are kept well apart.

S. 17 has quite changed over. The Germans are all friendly, they're as nice as English people and even nicer. A favourable stereotype.

S. 18 and 19 confine themselves to those Germans they've seen. The abundance of arguments in favour of the war would seem to indicate some resistance, as if they were arguing against a less favourable view.

14, 12. *FB*. 8. 'I've spoken to a German P.O.W. We had him to tea, then two more, and they were all ever so nice.' They were working where my Father works, and he'd got to know them, so he asked them in to tea. They seemed very genuine, as though you could trust them. You could, I'm sure! I don't think they wanted the war—they seemed so sorry to leave their own country, and kept on talking about their Mother or their families and how they hoped they were well, and all that. They were young, about 20 to 30. I don't think they can be blamed for the war. They made themselves quite at home with us, and you couldn't believe they were the sort who would do the bad things some Germans did in the war that I heard about on the wireless. (I don't go to the pictures because it's too stuffy, it upsets me.) I saw lots more, and some looked as nice as those we got to know, but others looked fierce and threatening in looks, as though they didn't want to be friends. I've got a German Auntie. My uncle was in hospital in Germany and met her there during the last war [1914–18] and she's not very friendly either. Not so friendly as those who came to tea. You can see her talking to her husband behind our backs—it makes you think she's talking about you, and is sly, I should think. Not many of our family like her, and my Auntie detests her because she's so sly. It's kind of half and half about Germans with me. I don't like Hitler and those who made war, and I don't like some P.O.W.'s I've seen and I don't like my German Auntie. But I do like those nice ones who came to tea and some I saw. It seems as though the ordinary working-class Germans are best. (My German Auntie is quite well-off. She's not working-class.)'

S. 15, 14.*FC*.1. 'I've spoken to German P.O.W.'s. They are always cheerful and always greet you. They wish to be friendly with us. Some are very young—only 18 or 19—others are older. The way they spoke, you'd think they'd never been our enemies. I should imagine they like England, from the way they go about. What I've heard makes me think the Germans are cruel, but those I've seen don't look a bit like that. They must be a very mixed people—some very cruel-minded, others very nice and cheerful. I've seen many Germans, and they all seemed nice people and like us. They seem as if they've always lived in England—just ordinary, like us. None of the bad ones must have come here. In some books and papers I've read, it said that some Germans were forced into the war.'

S. 16, 14.*FA*.9. 'I think I've seen most of the German P.O.W.'s walking about C. Most of them looked young and seemed quite happy, I thought, and used to say they liked England and didn't want to leave here. (It was in the paper shop and I was in and heard them, often.) They seemed very young to be put in a war. I felt sorry for them, put in so young. I didn't think about them having fought against us—because the war was over and I didn't think about that. I just thought it a shame they should have been in it, so young. I liked most of them. Some looked nice fellows—others had different expressions and looked as if they were bullies, and it made you think of what you'd heard about the Germans bullying other people—in Concentration Camps. (I read it in the papers.) But on the whole I liked those I saw. I would have been friends if I'd met them anywhere where I could. But I only used to see them in streets or in shops.'

S. 17, 13.*FB*.9. 'I've spoken to German P.O.W.'s working near us. They're quite nice to talk to, those who can speak English. They talk about their children in Germany. Some want to go back, those with children. Some don't; they say they would rather live in England, they say English people are better than Germans, give better wages, and you get better food here and can have a better life. One came to our house. He wanted to go back to see his children, and now he's gone. He's written to us and put "Dear family S—". He didn't know how to write. I like Germans—some look funny, tho'—got faces like apes. But they're all friendly to us and I think they like English people and I think we should be friends with them. They're as nice as English people, and some of them are better in the way they talk to you—not grumpy but friendly—as if they like you.'

S. 18, 12.*FB*.5. 'There was a German P.O.W., used to work on a farm near us and he came to our house on Sunday, because he'd got to know Daddy. He's nice, he has a very kind way of speaking, and Daddy says he's a very nice man to work with. He says that Germans he's worked with have been nice. I've seen more in the fields and some look very nice. Others don't look nice, but they are nice, when you get to know them. Some have a grumpy expression, as though they'd grumble at you any minute. But they wouldn't—they're good-tempered and like children. The Germans used to give the children apples and oranges and played with them every day. I like all Germans that I've seen.'

S. 19, 13.*FB*.2. 'Some German P.O.W.'s down our way used to speak to me when they were there. They liked being in England and one was going to marry an English girl and stay here for good. They were working on farms and said they liked the farms here and the people. They thought the people were good to them. They didn't like the war much, they said, and were glad to be out of it. They seemed quite nice people and I liked them, and most people did. They seemed just like any other people to me.'

VII. PERSONAL CONTACTS

is clear from the statements quoted that the girls usually began with an unfavourable attitude to the Germans and that in many cases this became less unfavourable. It is difficult to escape the conclusion that this was connected with the many contacts with Germans that occurred. Even when these were confined to opportunities for observation, discrepancies between the war pattern and actuality often challenged the attitude. When favourable personal relations were established, the effects were more subversive.

For these girls there is something fundamental and ultimate about the experiences involved in personal relations. What people do when unforced, and the disposition which that action manifests (their 'nature' the girls call it), constitute their ultimate criterion. This they get, or think they get, in personal relations. They call it 'getting to know a person'. Other things are substitutes for or indications of that ultimate reality. They recognize the distinction between 'looks' and 'nature' or that a person may have been forced to do what he has done, though in practice they are often misled. Thus they may assume that a person is as bad in 'nature' as in looks, on the basis of the latter; or they may suppose that a cinema representation or a radio statement is true; but always the implication is that that is how the Germans would behave in personal relations with them and theirs. Looks, they imply, may be misleading; films and plays may be fiction; newspaper and other statements may be untrue; but personal relations—there rock-bottom is reached. When these are such as to develop a definite character, they are decisive.

In the cases under consideration here, personal relations could hardly develop far if unfavourable. Hence, apart from rare instances such as that of the German Aunt, the effect of personal relations is on the whole favourable. In a social situation which constrained personal relations into a hostile pattern, the outcome of an increase in personal relations might be unfavourable.

It is therefore not asserted that in the case of these girls personal contact necessarily insures a favourable attitude. But it is asserted that personal contact can change attitudes and their associated patterns, and that when personal relations of a definite character are established, they outweigh other considerations.

It is further asserted that such experiences or their outcome, favourable or unfavourable, can be generalized from persons known to persons unknown, from the individual to the group. It is, however, clear from the examples given that such generalizations are not unqualified and that opposing attitudes may force compromises and limitations.

Put more concretely, kindness or cruelty, friendliness or hostility, generosity or selfishness, realized as such within one's personal experience, outweigh looks and second-hand evidence and prejudices to the contrary.

Social situations may compel behaviour which insures personal experiences of a certain kind; initial attitudes may lead to misinterpretation of words and acts; but if, say, kindness is experienced as kindness, its effect upon a hostile attitude is subversive.

VIII. THE GERMAN PATTERN

His view that these girls think about peoples as a sort of generalization or extension of the way they think about people, is confirmed if one inspects the pattern of the most frequently mentioned liked or disliked German items.

Table 2. *Germans*

Liked items	No. of girls mentioning item	Disliked items	No. of girls mentioning item
Talked, played with us	63	Avoided social contacts	13
Friendly, sociable	46	Unfriendly	18
Kind, helpful	16	Not to be trusted, sly	14
Generous	16	Rowdy, violent	8
Not rough, quiet, neat, well-mannered	14	Rough, untidy	8
Jokey, cheerful	18	Miserable, unsmiling	10
Nice	76	Bad, nasty, not nice	21
Better than expected	16	Fierce, frightening	21
Dislikes fighting, forced to fight	41	Likes fighting	8
To be pitied	22	Cruel	6
Popular, accepted	34	Unpopular, not accepted	34
Likes England, the English, etc.	34	Disliked England, the English, etc.	7
Similar to the English	44	Unlike the English	2
		Enemies in war	54
		Committed atrocities	30

114 girls referred to the Germans.

Explanation. The above are the most often mentioned items, apart from some complementaries, e.g. 'unlike the English', put in for the sake of completeness. The item descriptions are comprehensive rather than the exact words used, e.g. 'friendly' or 'sociable' may have been used but so may 'homely', 'made himself at home', 'talked to anybody', 'talked as if he liked you', 'talked as if he liked talking to you or as if he were interested in you', etc.

If the liked items in Table 2 are examined first, it will be seen how high are the frequencies of the items that imply personal contact, or that refer to personal contact. 'Nice' for instance, may mean that the German turned out to be nice in personal contact or that he looked as if he would turn out to be nice if personal contact were established. The first seven items can be considered as referring to personal contact. They refer to personal qualities which facilitate or promise enjoyable personal relations.

The remainder can be considered as reassuring: the Germans are or look better than was expected; contrary to what has been said, they do not like fighting and had to be forced to fight; they are to be pitied rather than feared; other people, even adults, like them, so that in all probability they are all right; they do not hate but like England and the English; they are even indistinguishable from the English except in speech and clothes, and so may be expected to behave like the English. Of course some of these items imply personal contact with the Germans, either by the girl or by others, e.g. 'popular', 'likes England' and 'dislikes fighting', but their function is primarily reassuring rather than promising and facilitating enjoyable personal relations.

The disliked items naturally reflect the war attitudes of the girls and of their neighbours. Hence the heavy weight of 'enemies in war', 'committed atrocities', and 'unpopular'.

Many of the other items are based on personal observation, e.g. refusals to talk or to be bothered with children, pushing and shoving for places in a lorry, a sly or unfriendly manner and so on. Naturally the girls who were hostile to the Germans are heavily represented here, though many of the disliked items were contributed by girls who were friendly or ambivalent towards the Germans.

Some of the disliked items refer to personal characteristics which impair or impede personal relations. The characteristic common to the disliked items is, however, the disturbing quality. There is not one which in varying degree is not such as to disquiet, disturb, to make uneasy, to arouse apprehension or anxiety, to alarm or to frighten. Even those which at first sight may not appear disturbing, turn out to be so when read in the

all context. In S.12 an unsmiling and grumpy face, untidy hair and a refusal to speak are associated with and significant of menace and fear. In S.2 and S.10, respectively, untidy clothes and a refusal to say 'Hello' have a similar significance.

IX. THE ITALIAN PATTERN

Table 3. *Italians*

Liked items	No. of girls mentioning item	Disliked items	No. of girls mentioning item
Talked	11	Avoided contacts, unfriendly, unsociable	9
Friendly, sociable	17	Not to be trusted, sly	3
Kind, helpful, generous	4	Unkind	1
Not rough, tidy, well-mannered	4	Rough, untidy	9
Jokey, cheerful	8	Miserable, unsmiling	5
Nice	25	Bad, nasty	5
Forced to fight	4	Fierce, likes fighting	6
To be pitied	5	Disturbing appearance	6
Popular, accepted	9	Unpopular	3
Likes England, the English, etc.	11	Disliked England, the English, etc.	5
Similar to the English	3	Unlike the English	8
		Enemies in war	9
		Committed atrocities	1

44 girls referred to the Italians. For explanation, see Table 2.

The Italian pattern is very like the German, but there are differences. The Italians were here a shorter time, especially during the post-war period. Their opportunities for contacts being less, the items implying personal contacts are proportionately less. On the other hand, they were seldom felt to be as dangerous as the Germans. This is shown on the one hand in the smaller need for reassurance—the frequencies for 'forced to fight', 'to be pitied', 'popular or accepted', 'liking for England', 'similarity to the English', and 'better than expected', are all distinctly less in proportion than in the case of the Germans; and on the other in the proportionately smaller frequencies for 'enemies in war', 'committed atrocities', and 'fierce or likes fighting'.

Though they gained less from personal contacts than the Germans, they had on the whole less hostility and suspicion to face.

The same stages from hostility to friendliness can be worked out in the case of the Italians. But for lack of space they cannot be as fully illustrated.

S.20 and 21 exemplify hostile attitudes and their effects upon perception and interpretation. S.22 illustrates ambivalence and the effect of neighbourhood opinion in preventing contact and maintaining a hostile attitude against the effects of observation.

S.23–26 are given in order to show the efficacy of personal contact in changing attitudes, the tendency to generalize from the issue of that contact, and the importance that the girls themselves attach to getting to know people.

S.20, 13.FB.7. 'I saw the Italian P.O.W.'s but never spoke. Hefty men. I didn't like them [frowns]. They pretended they were on our side during the war and some of them were working with the Germans—at the end of the war I mean—when they were supposed to have left the German side. But some of them hadn't—they still worked with the Germans. We heard things (on the wireless) that make me think so anyway. They looked like that—treacherous and sly. Some had nice expressions, but I wouldn't trust them, any of them.'

S.21, 13.FB.1. 'I saw the Italian P.O.W.'s. I didn't like those very much. Some were friendly, some had cruel expressions as though they would like to do harm to us. A few nice

ones looked friendly, but mostly not. Mostly I didn't like them. I didn't feel sorry for them like I did the Germans. I didn't see as much of them. They weren't here as long.

S.22, 13. *FA*.4. 'I saw the Italian P.O.W.'s too. I liked them better than the Germans. They were often singing and looked happier—as if they were more friendly to us and liked us. There were only a few who weren't like that—they were just sitting, thinking—(not scowling, though, like the Germans). But I don't think I'd have spoken to the Italians either, if I'd have got the chance—I wouldn't like to be seen talking to them, because people say things about girls who talk to the Germans or Italians. They say "Fancy talking to Germans (or Italians)! They should keep to Englishmen!" I think it's because they were our enemies in the war. Not because they are foreigners, because they don't say anything about girls who go with Americans or other peoples we're friendly with. I don't think it's very nice myself to talk to Germans or Italians. I don't mind just a casual word but no more. I don't think the Italians were brought up to be as bad as the Germans. There's nothing much wrong with the Italians, only I wouldn't speak to them because they're our enemies. They fought against us in the war. They should be forgiven, but not yet, though. In time. I think they'd be quite nice people, if only we hadn't been enemies with them.'

S.23, 11. *FB*.3. 'I saw the Italian P.O.W.'s and met one. He came to a friend's house. He was darker than the Germans. I think I like the Germans better. I suppose it was because I didn't talk to him and get to know him as well as I did the Germans. I suppose that if I had, I'd have liked him just as much.'

S.24, 12. *FC*.5. 'I've seen some Italian P.O.W.'s and they spoke to me, but I couldn't understand all they said. I didn't like their looks much—I didn't like the look in their eyes. They followed you with their big eyes and looked as if they were going to come after you. I was a bit afraid till I got friendly with them, then I liked them. They had nice curly hair and kept themselves clean and nice and were cheerful.'

S.25, 14. *FC*.6. 'I met the Italian P.O.W.'s too, in Devon. They were very nice. They were on the farm, too, where I was on holiday. They said they liked the English people too and wanted to be friendly with us. They said that they never wanted to fight us, but were forced, just the same as the Germans. It was some years ago and they didn't get wages but they were content because they could live on the farm and get good food, they told me and were glad to be out of the war. (It was still on then.) They were very like the Germans and I liked them just as much. They're just like us, too, when you get to know them.'

S.26, 13. *FA*.3. 'I forgot to tell you, I know an Italian girl living near us, married to an Englishman who met her when he was a soldier in Italy, and she's very friendly and nice. She would do anything for anybody. Generally when the Italian P.O.W.'s were here I didn't like them. They didn't seem very friendly at all. At first they seemed as though they still disliked us. But after they'd been here a little while, they seemed to settle down and became more friendly to us, and would speak to people more. So people began to like them more. (They didn't like them at first.) She seems altogether different from those. I suppose it's because they're men and she's a lady. You expect the ladies to be nice, especially to other women. But she was friendly from the start. Perhaps because she's got an English husband. Anyway you could tell she liked us from the start. So now I think Italians are very nice—all of them, once they know you, and friendly to us when they know us. (Perhaps a bit shy, before, those P.O.W.'s.)'

X. THE JAPANESE PATTERN

Table 4. *Japanese*

Items	No. of mentions by the fifty-eight girls who had heard of the war and been exposed to anti- Japanese material	No. of mentions by the nine girls who had apparently not heard of the war with the Japanese and not been ex- posed to anti- Japanese material
Cruel actions	39	0
Cruel disposition	33	0
Fierce, warlike, likes fighting	25	0
Enemies in war	24	0
Ill-treated prisoners of war	31	0
Bad	12	0
Worst people, as bad as worst	29	0
All right	1	2
Sly, sly-looking	14	1
Disturbing appearance	26	3
Slant or slit eyes	27	5
Yellow colour	8	5
Ugly	7	2

67 girls referred to the Japanese. For explanation, see Table 2.

Of the sixty-seven girls who mentioned the Japanese, fifty-eight were acquainted with anti-Japanese material. The frequency with which these fifty-eight mentioned the most frequent items is shown in Table 4. The pattern stands out plainly. The Japanese are cruel in deed and disposition, they are fierce, sly and evil. They were against us in the war and ill-treated their prisoners. They have a disturbing or ugly appearance, slit eyes and a yellow colour. The quality of the pattern can be conveyed only by quotation.

S. 27, 12.FA.1. 'I've seen the Japanese in a war film. They were fighting white people. I don't like them. Their faces make me feel scared when I see one—they give me a creepy feeling. If I saw a real one I'd run, and Mummy says she doesn't like them either. They're the only ones I don't like the look of—they've got faces like murderers—look cruel. And in that picture they did cruel things—no mercy. I thought they liked to do cruel things.'

S. 28, 13.FC.6. 'I've seen a film of Japanese torture and what they do to you when they catch you. It was mostly white people, and a war film to show you what they really did. Mummy didn't know what film it was or she wouldn't have taken me, and after I'd seen it, I was frightened to go to bed and I kept dreaming of it. It was the first grown-up film I'd ever seen. [She gives details of the tortures.] The Japanese aren't black. They're brownny-yellow and look greasy—face and hands. Their eyes are always slanted [demonstrates] and look like little slits. I don't like the Japanese at all—so cruel. I've never seen a real one and I used to think all people were the same—like us—but when I saw the film, I didn't think people were all the same. They looked horrible and acted horrible and now if I saw one, I'd think of the ones on the film and I wouldn't like him.'

That pattern is questioned by only nine out of the fifty-eight. They question it on general grounds, rather than on the ground of specific information about the Japanese.

S. 29, 14.FC.9. 'In picture books I've seen Chinese and Japanese people. They look rich, most of them—had rich robes on, in these pictures. I liked them. And I think I've seen the Japanese in war films and I don't like them. Fighting us and doing cruel things. They seemed a bad, cruel people during the war. But I don't know what they're really

like because you can't judge by what people do in a war. Some might be nice, but if they're in an army, they're trained and have to do things. Perhaps they were ordered to do those bad things by their officers. So you can't tell what ordinary people are like by a war.'

S. 30, 14. *FB*. 3. 'So I have sympathy for them [the Negroes]. I'd probably get used to their colour if I knew a lot of them. Same with the Chinese and Japanese. On the films they seem nice and in books I've read. I like their clothes—robes.

I've heard people say that Japanese are cruel, because they used to torture our men when they were P.O.W.'s, by horrible methods. I don't like them for that—I've heard it on wireless plays and read it in books, so it must be true. (I read it in the newspapers too during the war.) Their slit eyes seem to fascinate me. I like those. I can't tell whether the Japanese are as bad as they're made out to be, or not, because I haven't seen them in real life, as I have the Germans. So in some ways I like them and in some ways I don't.'

S. 31, 13. *FA*. 6. 'I've seen the Japanese in war films and I didn't like them. They liked torture and all that. But that was on the films. I think it's exaggerated because most films are, anyway. I don't think any people would be as bad as that. But I think there was some truth in it. I think some Japanese are cruel, though they might have been forced to do it, like the Germans were. I don't know about the Japanese, whether they were or not. But I didn't like what I saw of them on the films. They looked hard people—pitiless.'

The pattern for the remaining nine, the nine who had missed the anti-Japanese material, is also shown in Table 4. Both patterns agree in regard to the physical features mentioned, and to their disturbing effect. They disagree in respect of the other part of the pattern. The specifically war part of the pattern is missing.

It is clear that an attitude of strong hostility to the Japanese has been established on the basis of second-hand evidence, i.e. on the basis of films (forty of the fifty-eight girls mentioned the war films), newspaper and wireless accounts, and accounts by neighbours and relatives, who had had first-hand experience of the Japanese. This evidence had been effective largely because of a social situation which favoured belief; though some had doubted, then or later. These attitudes had persisted. Three to four years after the end of the war they still survived. Only nine out of the fifty-eight show signs of change. They had survived better than the German war attitudes which had had better formative conditions.

One explanation is undoubtedly the converse of the explanation of the change in the attitudes to the Germans. In their case the end of the war had brought about social changes which had resulted in new experiences and relations which clashed with the war pattern. In the case of the Japanese the end of the war had meant the disappearance of any relations rather than the appearance of new relations. None of the girls had ever seen let alone talked with, a Japanese as a result of the termination of hostilities. The Japanese after the war had no new significance for them, and so the war attitudes persisted. References to the Japanese in post-war films, books and conversation were more likely to confirm than to challenge these attitudes.

There is, however, another factor—that of physical appearance, in particular that of eye shape. This, far more than colour, had disquieted the girls. That the results cannot be explained wholly in terms of that disquiet, is clear from the rest of the evidence. But it is probable that some of the explanation must rest upon it. How much can only be decided after inspection of the Chinese data.

XI. THE CHINESE PATTERN

Table 5. *Chinese*

Items	No. of girls mentioning item	Items	No. of girls mentioning item
Fierce	12	Kind	7
Bad, nasty	10	Nice	29
Cruel	9	Better than Japanese	29
Sly, not to be trusted	12	—	—
Disturbing appearance	24	—	—
Slant or slit eyes	58	—	—
Yellow colour	34	—	—
Ugly	16	—	—
Look like Japanese	19	—	—
Unlike English	9	—	—
Different clothes	13	—	—
Different way of life	6	—	—
Unhappy, miserable	7	Cheerful	6

82 girls mentioned the Chinese. For explanation, see Table 2.

The Chinese pattern is curiously like and unlike the Japanese. It contains the items which refer to physical appearance and its effect, namely: 'sly', 'disturbing impression', 'slant or slit eyes', 'colour', and 'ugly'. This is underlined by nineteen assertions of similarity with the Japanese. Yet it almost, but not quite lacks the specifically war items. There are some entries under 'fierce', 'bad' and 'cruel'. But there are entries of a kind not to be found in the Japanese war pattern—'kind', 'cheerful', 'nice', and most significant—'better than Japs'.

An explanation of this pattern is possible. On the one hand, there is the physical similarity to the Japanese and there is the effect that eye-shape in particular produces on nearly all who mention it. (S. 30, 36 and 39 show that there are exceptions.) This similarity makes it difficult for the girls to distinguish between the two, especially in films that do not expressly distinguish between the two (S. 32). Fifty-eight out of the eighty-two mention films in connexion with the Chinese. Hence, on the whole, the Chinese entries for 'fierce', 'bad' and 'cruel'.

On the other hand, there is the fact that the Chinese did not fight against us in the war—very few of the girls realize that they were our allies—and that no hostile attitude with its pattern of cruelty, ferocity and torture had been built up.

Again and again one finds a statement beginning in a way that suggests similar treatment for Japanese and Chinese. Then comes a realization that the Japanese were our enemies or that the Chinese were not. There follows an attempt to raise the Chinese as against the Japanese (S. 35–38).

There is also the fact that twenty-four girls had seen Chinese (only four of these had any personal contact), whilst none of them had seen any Japanese. But owing to the prejudicial effect of physical appearance, observation without personal contact is in this case unlikely to improve matters very much (S. 33 and 34).

On the whole, then, it is pull-devil-pull-baker between similarity of appearance and film treatment of Chinese and Japanese and the effect of their facial appearance on the one hand, and on the other the need to prefer the Chinese to our war enemies plus whatever effect seeing Chinese in the flesh may have had. Certainly few of those who say they like the Chinese show any warmth of feeling. It seems on the whole a case of liking the Chinese

in order more effectively to show dislike of the Japanese (S.35-37). The high proportion of 'undecided' cases is probably one reflexion of that conflict.

S.32 and 33 give two examples of similar treatment of Chinese and Japanese. It will be noticed that neither speaker refers to their war roles. Their physical similarity, and in S.33 their similar film treatment, have full play. S.34 shows the effect of facial appearance and expression on a girl who did not know that she was looking at a Chinese. S.35-38 illustrate the attempts to justify a preference for the Chinese, sometimes after initially lumping them together with the Japanese. They also show the effect of the anti-Japanese attitude and the lack of warmth in the declared preference for the Chinese.

S.39 shows a greater degree of warmth and S.40 the highest of all. Not only a rise in temperature but a change in quality is to be noticed in this last example—the only instance in which personal relations with a 'Chinaman' had developed beyond the most superficial level. Different items are mentioned. It will be noticed that the affection extends not only to the Chinese features and facial expression but to the Chinese people. The contrast between the film stereotype of the Japanese and the affectionate description of the Chinese is especially striking, and there is no attempt to deny the physical similarity of the two peoples.

In S.40 it was necessary to include the introductory portion about the Negroes in order to make the statement fully intelligible and to give it its full flavour. Here, too, the effect of personal relations and the generalization of the favourable attitude to clothes and colour and coloured people in general, are to be seen.

S.32, 12.FB.4. 'I saw some Chinese and Japanese on the *Film News*. They had funny faces—not like us at all—different eyes—different shape. I don't like the look of them. Sort of frightens you and makes you think they're bad people and will do something to you. When you see them on the pictures, they seem to be bad people—you see them killing people with knives on the sly. There's no difference between the Chinese or Japanese. Both do that sort of thing and I don't like either of them.'

S.33, 13.FB.8. 'I've seen some Chinese. One passed nearly every day, when I went to the other school. He seemed like a student. I don't like them—I don't like their faces. Slit eyes! Ugly! I've seen them on the news (at the pictures). They seem quite decent people. Only I don't like them. And I don't like the Japanese either. Same reason! Ugly faces! I've only seen them in books, but I don't like them. The women always carry babies on their backs and I'd be frightened they would fall. But I don't think they do, really. It's a good idea, though, because then you can easily do shopping. The Japs seem sensible people. I've never heard anything I don't like about them, except that they're always ready to fight, Daddy said. It's their faces I don't like. They put me against them.'

S.34, 14.FB.5. 'Which are those people with little slit eyes and yellowy colour? I've seen some down C (and a lady once). I don't think I like them so much as other foreigners because they always seem to look miserable to me. I've not heard much about them because I've never seen them on the pictures (I don't go much) or heard anything anywhere about them. But I don't seem to like them—they seem to frighten me when I see them. tiny faces, they look lost, and so pale, and a bit bad really—I think that's their eyes—look as if they've escaped from somewhere, and wandered off—like escaped convicts—want to run quick, don't they? They do give you such a sly look, then they hurry along! They're the ones I don't like. Of course I've not had so much to do with them as I have with the other

S.35, 12.FA.4. 'I like the yellow colour less than black. Chinese and Japanese—I'

een them on the pictures and I don't like their eyes neither. They just look like slits, and it gives them a sly look and I think most of them are sly. Some are all right, but I don't like most of them because of that slyness. I think I like the Chinese better than the Japs—the Japs are more cruel. I saw that on films of the war and I've heard people say it. I know a butcher who was captured by the Japs and he said they starved our men who were P.O.W.'s and they were cruel and he'd never like to be in their hands again.'

S.36, 13.*FC*.7. 'But I don't like the people with narrow eyes very much—yellowy-brown coloured skins—Chinese and Japanese. I prefer the Chinese of the two and I like their slit eyes and think they have a kind look. The Japanese fought against us in the war.'

S.37, 12.*FB*.1. 'I've seen the Chinese and Japanese on the films, too. I don't like their eyes—slits—seem ugly to me. They seem more rowdy and rough in their ways than English people—fighting in the streets, and if they don't like somebody, they just go up to them and stab them, and both Chinese and Japanese are as bad. Their dress is different, and in behaviour the Japanese are the worst of all—they do it to white people. I saw a war film of them doing cruel tortures and all the worst things they could do to P.O.W.'s—British and Americans. I don't like the Japs. I think I like the Chinese a bit more. Not quite so bad for torture. Just rowdy.'

S.38, 12.*FB*.10. 'I've seen the Japanese on the pictures. They were cruel in war films to P.O.W.'s and I don't like them. They tortured them. I've seen the Chinese too on the pictures. They have slit eyes too like the Japs, and I don't like those. They make them look cruel. But Chinese aren't as cruel as Japs—they don't torture people. I like the Chinese a bit more [than the Japs] but not a lot—because of their looks.'

S.39, 14.*FC*.5. 'I've seen the Chinese and Japanese on the pictures as well. The Chinese speak English nicely. I like the way they do that. I like their faces too. Their eyes are the proper shape for them, and it just suits them, they go up [demonstrates]—because the shape of their faces is just right for that kind of eyes. The Chinese are nice people.

The Japanese I've seen in war pictures, and I didn't like those. The Japs were fighting our people and doing cruel things—shooting people's heads off! I don't like the Japanese. They're a cruel people. They're the only foreigners I don't like.'

S.40, 14.*FC*.6. 'We had a black teacher at this school and she was lovely. I think that she was kind. She treated us nicely, never used to tell us off, and used to bring things from Africa to show us—handbags of snakeskin—and told us about Africa. She didn't know what snow was! I liked her a lot better than the ordinary teachers, and I like all black people. I think they look nice and wear nice clothes—ours did, nice coloured linen frocks—it was summer—and she looked nice in them—and they are kind to you and friendly. I've seen some at the College (it's near us) and they look the same—nice.

There was a Chinaman at the College, too, and he used to make kites for us. We knew him and he was nice. He was good-natured and he liked children. He played with the small ones who lived near the College—I was one. He made us kites and showed us how to fly them. We all liked him.

I think the Chinese look nice, too. I like their little eyes, and they're a nice colour. I like all coloured people because the colour's nice!) He had a good-tempered, patient expression on his face and was kind. I like Chinese people!

The Japanese I don't like so much. I've never seen one, but I've seen them on the pictures and they fight the English. Very angry and cruel—they tortured our men if they captured them. Cruel by nature! Their faces aren't nice, 'cos they've got a cruel expression on—

glaring! They've got the same eyes and colour as the Chinese, but spoil it with their expressions. They're the only people I don't like.'

XII. THE AMERICAN PATTERN

It will suffice for the purposes of this paper to deal with the American, Negro and Indian peoples more briefly.

Table 6. *Americans*

Liked items	No. of girls mentioning item	Disliked items	No. of girls mentioning item
Like children	19	—	—
Talked, played with us	42	—	—
Friendly, sociable	58	—	—
Kind, helpful	27	Unkind, inconsiderate	4
—	—	Drunken	5
Generous	78	—	—
—	—	Sex behaviour	13
Not rough, polite, quiet	16	Rowdy, violent	15
Smart, neat	12	Untidy	7
Nice	39	Not nice	2
Jolly, jokey	36	—	—
Cheerful	46	—	—
Popular	20	—	—
Likes England, the English, etc.	4	Disliked English	2
Similar to the English	7	Dissimilar	1
Attractive appearance	10	—	—
Attractive speech	24	Unattractive speech	8
Nicer, good life in America	12	Unattractive life in America	4
Have plenty, well off	13	—	—

106 girls mentioned the Americans. For explanation, see Table 2.

The American pattern is the converse of the Japanese. That was based entirely on second-hand evidence and was composed almost entirely of disturbing items. This, based on first-hand as well as on second-hand evidence, is predominantly composed of items which relate to or promise enjoyable social experiences. Such items may collectively be called sociable items. That their reassuring function is not as important as in the case of the Germans, is indicated, apart from the import of the interviews themselves, by the much lower frequencies for 'similar to the English', 'likes England', and 'popular'. (If the items were determined largely by factual considerations, then the Americans, it might have been expected, would have been considered as similar to the English even more often than the Germans were.)

The percentage of sociable items (Table 15) is higher and the proportions of reassuring and disturbing items less for the Americans than for any other people. The chief disturbing items, it will be noted, refer to matters that could be observed by the girls themselves or by a friend. The predominance of items relating to personal relations and observation is shown very clearly by the rarity with which the girls mentioned the fact that the Americans were our allies in the war. (Compare the importance of enmity in the case of the Japanese, Germans and Italians.) It would have been reassuring to have mentioned that but the girls did not need reassuring. They felt able to relax their vigilance and enjoy their games and chats with the Americans.

It is true, of course, that the Americans were our allies, and that in consequence the social situation must have been as favourable for them as it was unfavourable for the Germans. It is true, too, that the films had, as the interviews show, predisposed some

the girls in their favour. But the frequencies for what, to these girls, are the pre-eminent social virtues are impressive when compared with those for the other peoples, and bear witness to the nature of the Americans' relations with the children of C. Their willingness to talk with people and their interest in them, their social confidence, their liking for children, their generosity, their cheerfulness and their fondness for a joke, stand out even more clearly in the interviews than in the tables. They are preferred in these respects to the English. One example must suffice to convey the warmth of feeling and the quality of the pattern.

S.41, 14. *FB*.4. 'I knew one American very well—a girl who came over here for a holiday. I met her at the riding stables at D. I think most Americans are friendly, very easy to make friends with. I didn't have to speak to her first. I was very nervous, but she put me at ease, yet she was only 8 months older than me. But she had a lot more confidence. I liked her very much. She's gone back now. She liked England and she'd grown to love horses, with coming here and staying near the riding school at D (with relations). She was on her own over here, yet she seemed to take it so easily. Confident in everything she did. It must be the way they're brought up. The U.S. soldiers were just the same—just as sure of being liked. One came to stay with us for Xmas. Very nice. He liked to do everything we did. He helped Mother with the Xmas dinner. They're good mixers, join in anything, and I think they would in any other country, too, and join in whatever was going on. And they're very generous. This soldier often sends us parcels from America, now he's back there.'

XIII. THE NEGRO PATTERN

Table 7. *Negroes*

Liked items	No. of girls mentioning item	Disliked items	No. of girls mentioning item
Friendly, sociable	23	—	—
Kind, helpful	23	—	—
Not rough, decent	5	Rough	2
All right if civilized	8	Uncivilized, savage	19
Nice	51	Fierce	15
Jokey, jolly	14	Disturbing appearance	13
Cheerful	21	—	—
Popular, accepted	5	Not accepted	9
Similar, as good as whites	12	Dissimilar	3
Attractive appearance	33	Ugly	11
Colour liked	35	Colour disliked	31
Don't mind colour, get used to colour	12	—	—

107 girls mentioned the Negroes. For further explanation, see Table 2.

In the case of the Negroes the disturbing items are their physical appearance, especially their colour, and the belief that Negroes in Africa are savage and uncivilized and therefore dangerous. The emotional effect of these items appears clearly in S.42.

S.42, 12. *FB*.3. 'I've seen black men in London. I don't like them—the colour of them! It frightens you a bit. When I was little, I was more so because people used to say "Black man will get you" when you were naughty. I've seen black people on pictures, too, fighting white people. The black men had no clothes on except a little cloth round, and spears. It was in Africa and they were fierce savages. I didn't like those. I would be frightened of them if I was in Africa. It's because they've not been taught any different. Those in

London are different—as good as us, because they have been taught better. But all the same I don't like them because of the colour.'

The belief that Negroes in Africa are savage is balanced by the belief that the Negroes are 'all right if civilized' and by the observation of Negroes in the flesh or of American Negroes on the films. Similarly, for the thirty-one girls who dislike the Negro's colour, there are thirty-five girls who like it. (Some express their liking quite strongly.) The twelve who don't mind it or have got used to it, are perhaps reassuring themselves.

Some time before the interviews a Negro teacher had taught in the school for a period and had made a very favourable impression on the girls. As S.40 shows, this impression had been extended to other Negroes and even to coloured people in general. Eighteen of the 14.1–15.0-year-old group mention this teacher and all enthusiastically. As others in this age group had no doubt heard of the black teacher and some may even have been taught by her, and as this teacher is not mentioned outside this age group, we have compared in Table 8 the ratings for the 14-year-old group towards Negroes with those for the other three age groups.

Table 8

Age group	Favourable	Undecided	Unfavourable
14.1–15.0	28	1	1
13.1–14.0	15	9	3
12.1–13.0	17	5	3
11.1–12.0	15	7	3

Combining the 'undecided' and 'unfavourable' cases, we get:

Age group	Favourable	Not favourable
14.1–15.0	28	2
11.1–14.0	47	30

$$\chi^2 = 9.324 \text{ (corrected for continuity). } P < 0.01.$$

The difference between the two groups is therefore statistically significant in spite of combining the 'undecided' with the 'unfavourable' cases, and in spite of the blurring effect of any spread of the 'black teacher's' good repute throughout the school.

The difference between the two groups is even more effectively brought out if the pattern for the 14-year-old group is compared with that for the other three years.

Table 9

	No. of 14-year-old girls mention- ing item	No. of 11–14-year- old girls mention- ing item		No. of 14-year-old girls mention- ing item	No. of 11–14-year- old girls mention- ing item
Liked items			Disliked items		
Friendly, sociable	13	4 (10)	—	—	—
Kind, helpful	4	8 (19)	—	—	—
Not rough, decent	0	2 (5)	Rough	0	1 (2)
All right if civilized	4	2 (4)	Savage, uncivilized	2	7 (17)
Jolly, jokey	8	2 (6)	Disturbing appearance	2	4 (11)
Cheerful	7	6 (14)	—	—	—
Nice	16	14 (35)	Fierce	1	6 (14)
Popular, accepted	3	1 (2)	Not accepted	2	3 (7)
As good as whites	8	2 (4)	Dissimilar	0	1 (3)
Attractive appearance	10	9 (23)	Ugly	0	4 (11)
Colour liked	6	12 (29)	Colour disliked	2	12 (29)
Don't mind colour, get used to it	10	1 (2)	—	—	—

Explanation. Thirty girls in the 14-year-old group mentioned the Negroes. Seventy-seven girls in the 11–14-year-old group mentioned the Negroes. The frequencies for the 11–14-year-old group have been multiplied by 30/77 in order to make them comparable with those for the 14-year-old group. They are given to the nearest whole number. In brackets are given the frequencies for the whole seventy-seven.

It will be noticed that the frequency for 'friendly' or 'sociable' for the thirty girls is higher than that for the seventy-seven girls, and that the disturbing items, especially 'uncivilized', 'fierce', 'disturbing appearance' and 'colour' are much reduced. The relatively high frequency of 'kind' in the case of the lower age group is explained by 'kind' here meaning 'kind-looking'. There are only three cases of personal contact in the lower age group whilst there are eighteen cases in the upper. The comparison between the two groups is to a large extent a comparison between personal contact and observation.

The term 'friendly, sociable' is rather deceptive in that it means much more in the case of personal contact, especially in the case of the 'black teacher' contacts, than in the case of observation only. An example will show this.

S.43, 14.FB.8. 'I've seen black people in C and they seem nice. Friendly people. I like black people. We had a black teacher here once and she taught our class. I liked her. She was cheerful and I liked her better than the ordinary teachers. She told us a lot about her country, Africa, and she was interesting and more friendly to us than ordinary teachers are. She talked to us more than other teachers do. Everybody liked her. I hadn't seen many black people before that, but since then I've liked them.'

XIV. THE INDIAN PATTERN

Table 10. *Indians*

Liked items	No. of girls mentioning item	Disliked items	No. of girls mentioning item
Friendly, sociable	17	Unfriendly, unsociable	2
Kind, generous	8	Unkind, selfish	0
Polite, quiet, civilized	11	Rough, uncivilized	4
Nice, all right	33	Bad	4
As good as others	4	Disturbing appearance	5
Colour liked	14	Colour disliked	8
Get used to colour, don't mind colour	9	—	—
Attractive appearance	12	Ugly	5
—	—	Indian way of life	6

57 girls mentioned the Indians. For further explanation, see Table 2.

The Indian pattern resembles the Negro pattern of the younger age group. In fact many of the girls lump the two peoples together under some such name as 'dark people'. It is not that they cannot and do not distinguish Negro from Indian in respect of colour, hair, dress and the like; it is rather that they seem to feel that they belong together.

As in the case of the Negroes there are those who like and those who dislike colour and those who assure themselves that it doesn't matter. On the whole, then, in so far as a general attitude to the Indians can be said to exist, it can be described as friendly rather than hostile, yet a little in need of reassurance.

XV. PERSONAL CONTACT AND ATTITUDE CHANGE

Amongst the conclusions reached are two which can be examined a little more closely. One is the efficacy of personal contact in changing attitudes, the other, the prevalence of disturbing, reassuring and sociable items amongst those mentioned.

If the first conclusion is to be more firmly established, control groups are necessary. Girls who saw and had personal contacts with Germans changed their attitudes. It still remains to be shown that these changes would not have come about, at least to the same extent, if these experiences had been lacking.

The girls who mentioned the Japanese, with whom no such contacts occurred, are not a satisfactory control for those who mentioned Germans. Each people has special features which vitiate comparison. What is needed is a sizeable group of girls who have not even seen Germans, for comparison with those who have. Similarly, with the other peoples.

Such controls are lacking. In the case of all the peoples except the Chinese, the vast majority of the girls fall into one or the other category. Here an application of the χ^2 test shows no significant difference between those who have at least seen Chinese and those who have not. This is, perhaps, not surprising in that there were few who had done more than see Chinese. That observation alone was less effective in improving attitudes towards them than towards white or dark peoples, and that the seemingly most important determinant of attitudes towards the Chinese, namely, their unlikeness to the Japanese in not having been our enemies in war, holds for both categories of girls.

It is, however, possible to compare girls who only saw, with girls who also talked with Americans, Negroes, Italians, Germans or Indians. The comparison is given in Table 11.

Table 11

People	Data	Favourable	Not favourable	χ^2	P
Negroes	P.C.	21	0+0	—	—
	O.	50	18+10	10.35	<0.01
Indians	P.C.	11	0+2	—	—
	O.	25	7+7	1.08	<0.30
Italians	P.C.	18	3+0	—	—
	O.	7	5+10	10.75	<0.01
Germans	P.C.	45	12+2	—	—
	O.	26	12+16	8.30	<0.01
Americans	P.C.	53	8+1	—	—
	O.	35	5+4	0.28	<0.70 + >0.50

In this table the 'undecided' and 'unfavourable' cases have been combined as 'not favourable'. The frequencies in the two categories are, however, shown separately, linked by a plus sign. The frequencies for undecided come first. All the χ^2 have been corrected for continuity.

P.C. = personal contact, necessarily includes observation and second-hand sources.

O. = observation without personal contact, but usually includes second-hand sources.

In the case of three of the five peoples—the Negroes, the Italians, and the Germans—the differences are statistically significant. In the case of the other two—the Indians and the Americans—they are not significant, though the difference is in the expected direction.

The Indian numbers are of course small; but there is another consideration. It is asserted that personal contact is a more efficient changer of attitudes than observation alone. This assertion is, however, being tested by inquiring whether personal contact is more effective than observation in changing attitudes from less to more favourable. Cases in which personal contact brings about changes from more to less favourable, will therefore count against it, though they should count for it. It so happens that the two unfavourable personal contacts are of this kind.

The same consideration holds to some extent in regard to the Americans. In their case however, nearly all the data predispose the girls towards favourable attitudes. In order to test the matter further, a finer grading has been made. The favourable cases have been split into 'very favourable' and 'favourable', and then all the cases regrouped into 'very favourable' and 'not very favourable'. (This last category includes 'favourable', 'undecided' and 'unfavourable'.) Table 12 shows how the matter now stands. So far as this test goes its result is favourable to the hypothesis.

Table 12

	Very favourable	Not very favourable
Personal contact	41	19
Observation	20	26

$\chi^2=5.603$ (corrected for continuity); $P<0.02$ and >0.01 .

On the whole then, taking all the evidence into account, qualitative as well as quantitative, there seems to be a strong case for the hypothesis that personal contacts, all the more when the personal relations involved are more than superficial, can not only change attitudes but can do so more effectively than observation.

It cannot be assumed that personal contacts will invariably or even predominantly have a favourable outcome. That will depend upon the extent to which society imposes a fixed pattern upon personal relations, upon the nature and rigidity of that pattern, and upon the persons involved. But further elucidation of this matter must now await the working out of the rest of the data and above all an experimental attack upon the problem.

Some further evidence can be submitted on one point. In discussing attitudes towards the Germans, it was remarked how much depended upon the attitude of the family and neighbourhood, though usually the family's attitude, when favourable, has been influenced by contact and observation. With a view to checking this point the statements about Germans were classified as in Table 13. If these seventy-one cases, where the family

Table 13

Attitude of girl	Attitude of family and neighbours to Germans		
	Hostile	Not known or neutral	Friendly
Changed to more favourable	20	36	39
No change or less favourable	12	6	0

Omitting the 'not known' or 'neutral' cases and applying the χ^2 test to the remainder we get $\chi^2=14.6$ (corrected for continuity); $P<0.01$.

attitude is known to be well defined, are reclassified into personal contact and observation cases, we get:

Kind of data	Kind of change in attitude	
	More favourable	No change or less favourable
Personal contact	36	1
Observation	23	11

$\chi^2=9.3$ (corrected for continuity); $P<0.01$.

XVI. THE PSYCHOLOGICAL SIGNIFICANCE OF THE ITEMS MENTIONED

If the items mentioned by the girls are examined, two things stand out. First, a number of personal characteristics which might presumably have been mentioned, are seldom or never mentioned. Obedience and perseverance, honesty and courage, are examples. The list of items is a selection. It is, secondly, a selection along very definite lines, especially when the emotional import or psychological function of the items mentioned is taken into account.

If the disliked items are considered first, we find items which can be described as disturbing in that they manifestly arouse uncertainty, disquiet, apprehension, anxiety, alarm, fear and horror. That this is so, is apparent from the interviewee's attitude and from the context. Items such as cruelty, torture, taking children away, ill-treating P.O.W.'s, violent or rowdy behaviour, almost speak for themselves, even when unaccompanied by expressions of fright or horror. But there are other items which are perhaps not so obviously disturbing to an adult as to these girls.

'Roughness' is, as we have seen, an example of a disturbing item which is not at first sight disturbing to an adult. Love of fighting, reckless valour, and the like are others. In fact, dislike is generally expressed for any form of physical or verbal aggression; and not only dislike but disquiet.

Some items will be found amongst both liked and disliked. Colour and speech are examples. Some girls like the colour of Negroes, others do not. At first this may seem capricious, but not so if the context and occasional illuminating statements are taken into account. It is when colour is disturbing that it is disliked. When it is not disturbing, it may be liked or pass unnoticed. It is not disturbing when circumstances are favourable, when one feels safe and confident, when one has become accustomed to it, when the coloured person is known and liked, and so on. Similarly, strange dress, strange customs, strange speech, strange appearance may be liked or disliked. They are disliked when they are disturbing. Sometimes they are liked singly but not in conjunction: one strange attribute can be tolerated, perhaps two, but seldom more than two.

Language is a good example of an attribute which may be liked or disliked. When the speaker's intentions cannot be gauged, when what is being said cannot be understood, the girls are apt to get uneasy and fear the worst. They express these fears. One girl put the matter very plainly when she accused some coloured men who could speak English, of speaking their own language in order to frighten the children present. She assumed without question that that would be the effect. It plainly never occurred to her that there might be another explanation of their preference for their own language. The combination of colour and strange speech was no doubt too much for her tolerance.

Difficulty in reading another's expression or in foreseeing how he will react, similarly disquiets. The girls seem to find the Chinese and Japanese more inscrutable and unpredictable than the Negroes and the Indians, who are more western in their ways than the Chinese or Japanese.

Physical characteristics may disquiet. The 'slit' eyes of the Chinese and Japanese are, perhaps, the best example. These suggest the proverbial looking askance, the sideways glance of slyness and treachery, and are disturbing to most. Some girls plainly express this disquieting significance.

It is disturbing also to find that others, parents, elders, friends, etc., dislike or distrust a particular people or group of foreigners, or to find that the foreigner dislikes or disparages the English and their ways.

In general, most disliked items readily classify themselves as disturbing.

Matters are not quite so simple when the liked items are considered. These have two functions. One is that of reassurance, of implying that all is well, that there is no need to be on guard, that it is possible to relax and enjoy life. The other is that of promising and assuring enjoyable experiences with the person in question. The difficulty is that most liked items have both functions. Friendliness, kindness, generosity, willingness to talk to

others, liking for children, cheerfulness, good-temper and the like promise and promote enjoyable social experiences as well as reassure. Sometimes the one function predominates, sometimes the other; generally it is not possible to distinguish between the two. There are, however, a certain number of items in which the reassuring function plainly predominates. When a girl says of foreigners that they are not frightening or are better than expected or are not bad or not cruel or not rough, or that they didn't want to fight or were forced to fight, or that they are to be pitied, or that they returned a greeting, reassurance is clearly in question. Such items are classed as reassuring. Items that promise and promote enjoyment and that may also reassure, are classed as sociable because they promote enjoyable social experiences or sociability.

In Table 14 items are classified along the lines indicated. Disliked items are divided into disturbing and other items, liked items into reassuring, sociable and other items. It should be noted that this table differs in principle from earlier tables. There the number of girls mentioning a particular kind of item was listed. Here it is the number of times a particular kind of item is mentioned that is in question. If a girl, for instance, mentions seven disturbing items in respect of the Germans, seven is added to the total of disturbing items for the Germans.

Table 14

Items	Totals for peoples					
	Americans	Dark people	Italians	Germans	Japanese	Chinese
Disliked						
Disturbing	84	159	67	226	249	159
Other	21	27	2	1	4	18
Total	105	186	69	227	253	177
Liked						
Reassuring	106	236	67	292	6	114
Sociable	409	248	71	232	6	69
Other	50	44	1	19	9	38
Total	565	528	139	543	21	221
Total of all items	670	714	208	770	274	398

In this table the Indians and Negroes are grouped together under the title of 'Dark people'. For explanation of this table, see text.

The outstanding result is of course the preponderance of items which are either disturbing or reassuring or sociable. In order to make this clearer the three are expressed as percentages of all items in Table 15.

Table 15. *The category totals of Table 14 expressed as percentages of the total number of items mentioned*

Category	Peoples					
	Americans	Dark people	Italians	Germans	Japanese	Chinese
Disturbing (%)	12.5	22.3	32.2	29.4	90.9	40.0
Reassuring (%)	15.8	33.1	32.2	37.9	2.2	28.6
Sociable (%)	61.0	34.7	34.1	30.1	2.2	17.3
Total of all three categories (%)	89.3	90.1	98.5	97.4	95.3	85.9

It will be noticed that although the proportions of the three vary from one people to another, the sum of the three is fairly constant for all peoples.

It will be observed how in the case of the Americans, where there was least to disturb and smallest need for reassurance, the percentage of sociable items is about double

those to be found in the cases of the Italians, the Germans and the 'Dark people'. It is probable, too, that the social enjoyment function in this double function category of items was higher in the case of the Americans than of the other peoples.

Tentatively it may be suggested that in meeting, observing or thinking about foreigners or members of other peoples, these girls readily become apprehensive. Strangeness in dress, appearance, speech, facial expression and conduct may excite interest if not presented in too massive doses, but very often uncertainty and apprehension are aroused, and avoidance or a search for reassurance may follow. This initial anxiety may be allayed or sharpened by the after-effects of secondary material (films, radio, books, gossip, and the like), or by observation. But the decisive test is personal contact, or more precisely, the sort of personal relations which are established with individuals. These may be aided or hampered or even totally prevented by attitudes based on observation or, more usually, on secondary material. When personal relations are established, however, the attitude formed is decisive in respect of the individuals directly concerned and tends to be generalized to other members of the people concerned. This tendency to extension may be circumscribed by previously formed attitudes.

In the vast majority of cases examined here the effect of contact and observation was reassuring. Where reassurance was secured, contact could lead to enjoyable personal relations. In such cases the sociable items rather than those that were reassuring or disturbing, tended to become dominant. In other words, enjoyment replaced reassurance or wariness.

XVII. SUMMARY

120 Secondary Modern schoolgirls of ages between 11.1 and 15.0 years were interviewed by a free procedure in respect of their opinions of peoples other than their own.

The interviews showed that attitudes established on the basis of second-hand evidence, had in many cases changed. Sometimes a new attitude, which conflicted with the old, had developed. Sometimes a new pattern had appeared which enabled conflict to be avoided. Examples are given of the persistence and of the change of attitudes, of conflict and of conflict-avoiding patterns, and of the devices by which the persistences and changes are defended.

The changes were related to the extent to which seeing people in the flesh and still more having personal contacts with them had replaced or supplemented the second-hand relations of printed or spoken or filmed descriptions. The girls regarded getting to know people by personal contact as fundamental. In default of this, second-hand evidence was interpreted to indicate how people would behave if personal contact occurred. When attitudes based upon second-hand material persisted, they did so by limiting contact and by prejudicing such contacts as were made. Generally when contacts of a kind discrepant with the initial attitude occurred the attitude changed.

The statements made about other peoples were confined to their possession of disturbing or reassuring characteristics or those which promised enjoyable personal relations. Changes of attitude were indicated by the substitution of reassuring or promising for disturbing items, or vice versa.

In general, peoples were thought of in the same way as individuals. Hence the readiness to generalize from experiences with individuals to the characteristics of peoples.

MOTIONAL ATTITUDES TOWARDS THE FAMILY OF NORMAL, NEUROTIC AND DELINQUENT CHILDREN

PART II

By LYDIA JACKSON

Introduction (p. 173). II. *Stories by a normal girl, J.W., aged 11 years 6 months, I.Q. 132* (pp. 173–177): (i) *Stories as given* (pp. 173–175); (ii) *Interpretation of content* (pp. 175–176); (iii) *Personality of the subject* (pp. 176–177); (iv) *Summary of discussion* (p. 177). III. *Stories by a neurotic girl, D., aged 11 years 1 month, I.Q. 102* (pp. 177–181): (i) *Stories as given* (pp. 177–178); (ii) *Interpretation of content* (pp. 178–179); (iii) *E.D.'s personality and history* (pp. 179–181); (iv) *Summary of discussion* (p. 181). IV. *Stories by a delinquent boy, T.S., aged 12 years 6 months, I.Q. 87 (probably underestimation)* (pp. 181–184): (i) *Stories as given* (pp. 181–182); (ii) *Interpretation of content* (pp. 182–183); (iii) *T.S.'s personality and history* (p. 183); (iv) *Summary of discussion* (p. 184). V. *General conclusions* (pp. 184–185). *References* (p. 185).

I. INTRODUCTION

In the first part of this paper⁽²⁾ I analysed 652 stories, composed by 110 children in response to a projection test designed by myself, 'The Test of Family Attitudes'. The children tested were between 6 and 12 years of age, and were matched as closely as possible in chronological and mental age. The three groups compared consisted of 40 normal (20 boys and 20 girls), 40 neurotic (20 boys and 20 girls) and 30 delinquent subjects (20 boys and 10 girls). The data obtained were treated statistically, and significant differences in the types of responses between the three groups were revealed.

I feel, however, that the quantitative treatment of data obtained by a projective technique fails to convey the full significance of essential qualitative differences, and that complete examples of individual responses are needed to illustrate the character and meaning of such differences.

In the following pages, therefore, I propose to give an example of a complete set of stories from each group of subjects, the normal, the neurotic and the delinquent, to analyse them and draw the conclusions which, in my opinion, can be justifiably drawn from them. I shall also relate these conclusions to the quantitative results obtained from the Test, as well as to the personalities and the family background of the subjects. Finally, I shall attempt to formulate some general conclusions concerning the therapeutic approach to the problems of aggressive behaviour in children.

II. STORIES BY A NORMAL GIRL, J.W., AGED 11 YEARS 6 MONTHS, I.Q. 132

(i) *Stories as given*

*Picture 0.*¹ Mrs Brown is a very poor lady. She was also very lonely because it was ten years since her husband had died, and often she wished that she had a baby for company. She would sit and look into the fire, and look, and wish. One day when the wind was howling round the house, there came a tap on the door, and upon the doorstep there stood a weary traveller. 'Good Mistress, have you lodgings for the night?' he questioned. 'It's but a poor, lonely house', Mrs Brown answered, 'but you're welcome to whatever there is.'

She let the stranger in and gave him a seat by the fire. After he had something to eat, he asked for a bed. Mrs Brown gave him her bed and slept by the fire all through the night. When she awoke in the morning, the traveller had gone, and Mrs Brown thought no more about it. But a few days afterwards, when

¹ References throughout are to pictures 0, 1, 2, 3, 4, 5, illustrating Part I of this paper. See *Brit. J. Psychol.* 50, xli, 37–9.

Mrs Brown was cleaning the doorstep of her house, she found, wrapped in a silken coverlet, a tiny baby. Joyfully she picked him up and carried him into the house and put him in a cradle she kept in case she did have a baby. Now he has grown into a strong fine man, and though Mrs Brown did not know, it was her kindness that led her to finding a baby.

Picture 1. It was quite an ordinary family that lived in a house in the suburbs of London: mother, father, baby John and his big brother Jack. Jack had sailed away to America, and nobody knew when he would come back, as nobody had heard from him for a long time. You couldn't call baby John a baby any longer, for he was growing fast. One day when mother and father were sitting by the fire, talking about Jack, and John was playing on the floor, came a knock on the door. It was rather strange that a knock should come on the door at that time of the evening, for having no relatives and few friends, visitors were rare. John looked up in sudden surprise. Mother and father looked at each other hopefully. 'Can it be? Is it?' asked mother hopefully. But no, only a late caller, asking his way to a small side-street. They were all very disappointed and took their seats again, looking sorrowfully into the fire. Seconds passed into minutes and minutes into hours, and mother said: 'Bed time, John!' John liked a bit of fun, and wasn't spoiled. 'All right, Mummy', he called. 'Bed time!' called a jovial voice from behind the door, and in walked a manly figure, who was instantly recognized as Jack, who had left long ago. And now in the house all four of them were happy, and so will be for ever more.

Picture 2. In a small house in the country there lived father, mother and a little fair-haired girl called Susan. Nobody liked Susan because they said she was spoiled. Although she had no friends, she lived happily in the back garden, or roaming fields and hills. It was quite true to say that Susan was spoiled because she was an only child. Mother and father were very fond of her and she did just as she liked.

One day a little baby brother came to live in the house with Susan. Mother and father were so busy looking after Brian, as the baby was called, they were not able to take much notice of Susan. She was aware of the fact that they were not taking much notice of her, and she began to plot in her mind that she would run away. She would go and live with her friend, the only one she had. She counted out her money and found that she had just enough to take her there. So on a bright September morning away she ran to the station. Arriving at her friend's house, her friend looked at her in great astonishment. 'Mummy, look at this, Susan is here, on the doorstep!' 'I've run away', said Susan proudly. 'My dear child', exclaimed Mrs Walker, 'you must go back immediately', and she sent the wire off quickly, but wire came back saying that she was not wanted. That was a shock to Susan. For three weeks she stayed at her friend's house and did not enjoy it a bit. When she arrived home, her baby brother was growing fast. 'Served you right to be sent away', said her father sternly. 'Perhaps now you will not be so jealous.' And now Susan is the most popular girl at school and has many friends. Wasn't it a good job that Susan had a baby brother? [Exper. asked: 'Who did the parents really like best, the baby or the little girl?'] They had to take care of the baby when he first came, but afterwards they did not like either of them better, they liked them equally.

Picture 3. There was no doubt about it, Colin was certainly a naughty boy. He would climb trees and tear his shirt, and trespass in farmer Giles's fields. Mother and father could not do *anything* about it. One day his uncle and aunt decided to come over to look after Colin while mother and father went for a holiday. Colin did not like the idea of this because both uncle and aunt had a very sharp tongue. Uncle and aunt came over the day before mother and father went away, and Colin knew he was going to have a very bad time. But no, they took not the slightest notice of him when he climbed trees and tore his shirt, they just looked at it and said not a word. Colin thought that was good, but he soon found it wasn't because they did not give him his meals and did not make his bed. And then Colin sat down in his room and thought. He knew he was a naughty boy, and then he went to uncle and aunt and apologized for his behaviour, and was never a naughty boy again. What a surprise mother and father had when they came back and found him so good!

Picture 4. When father was a little boy he had been very fond of sport, and now he was grown-up, he has become a boxer and was married to a shy girl, called Violet. One day a baby was born, and much to father's delight it was a boy. 'I shall teach him to box', said the father proudly. 'No you won't, I shall not want him to be bruised before his life's hardly begun', said the mother. They quarrelled continuously over this matter. The boy was certainly strong. One day when father went out lumbering, he came back hungry and anxious to see the little boy, as he always was. Mother came out and held him in her arms, and much to their surprise, he clenched his fists just like father's. 'Looks as if he were going to be a boxer too' said father. 'Well, it looks like it', said mother, 'and so, I suppose, you'll teach him.' And so he did. Now he has grown up to a fine lad of twenty or so, and can even beat his father in a ring. Although he was a strong man, he still remembers his mother, shy and delicate, and has a special love of spring flower especially violets.

Picture 5. In a small shack in the wood there lived a little girl and her father. Gill, as she was called, had a special love for Nature, especially birds. Father was just the opposite. The only thing of Nature he enjoyed was trees, because it was his job to cut them down. One day, they were sitting in their hut watching the smoke curl upwards through the tall trees, a sparrow came through the door and looked round hopefully for some crumbs. In the winter months food was scarce. Seeing a lump of bread lying close to the fire, he hopped over to the fireside. He was about to peck it when father saw him and made a run at him, but Gill was too quick for him. The bird hopped into the leaping flames and Gill caught hold of him. His feathers were scorched. Gill laid him on a bed of cotton-wool and he soon recovered. During that time father had helped Gill and gave him crumbs from his hand, and so when the sparrow had gone, Gill questioned him. 'I thought you didn't like Nature', she said. 'No, but I feel it was my fault that the sparrow was scorched', he said. 'And I had resolved to like Nature as much as you do.' And so he does. And it was a pleasant sight to see Gill and her father sitting on the doorstep and all the birds hopping round them, feeding out of their hands. [Exper. 'Where was Gill's mother?'] Her mother had died.

(ii) *Interpretation of content*

In her first story (P. 0) this girl describes a lonely woman wishing for a baby 'for company', and obtaining it as a result of giving hospitality to a stranger.

The unconscious sexual symbolism of this story is very transparent, but has no direct relevance to the present discussion: the important and relevant point is that the baby is regarded as a reward for virtue (kindness shown to a stranger), as a gift to be longed for. It is an attitude characteristic of this group of subjects—a feeling that a child is wanted by its mother. The mother-child bond is felt to be strong.

In her second story (P. 1) the theme is family affection. The parents grieve because of the absence of news from their sailor son; they are overjoyed when this son unexpectedly arrives home. The family is seen as a closely-knit unit which is not broken up even by a prolonged absence of one of its members.

Her third story (P. 2) is concerned with a family disagreement and subsequent reconciliation. A 'spoilt' little girl, jealous of her baby brother, runs away from home, but returns a reformed character. Not only is she cured of her jealousy, but she becomes 'the most popular girl at school and has many friends'. Here, the reactions of a child to sibling rivalry are frankly faced and openly described. There is no attempt to gloss over the facts: the 'reality principle' has been accepted. The salutary effects of an unpleasant experience on the development of character are also recognized. J.W. concludes her story by a sentence: 'Wasn't it a good job that Susan had a baby brother?' This successful overcoming of the initial hostility towards, and jealousy of, a younger sibling is characteristic of the responses of the normal group, as shown by their high scoring in the type of response such as 'Older child is jealous of the baby', as well as on 'Older child likes the baby'.

In J.W.'s fourth story (P. 3), a 'naughty' boy, Colin, whose parents cannot control him, is made to realize by two level-headed adults (really parent substitutes) that 'naughty' behaviour does not pay. Like the girl in the previous story, he becomes a reformed character.

Both these stories illustrate the adoption of adult standards by the subject, the operation of a reasonably mild and realistic 'super-ego'. Punishment is seen as a consequence of the child's own actions rather than as an act of personal vindictiveness on the part of an adult, and the result of punishment is the reformation of the transgressor, not his annihilation.

The theme of her fifth story (P. 4) is a disagreement between husband and wife which is settled by the child they both love. This picture, which suggested stories of violence and cruelty to so many subjects of the neurotic and the delinquent groups, merely prompts this

girl into representing the parents as contrasting in temperament. The husband was 'a boxer', the wife 'a shy girl'. 'I shall teach him to box', said the father proudly. 'No, you won't, I shall not want him to be bruised before his life's hardly begun', said the mother. Both parents are thus positive in their attitude towards the child: the father in trying to bring him on, the mother in protecting him. Parents are seen as entirely benevolent: 'the bad parent' fantasy is completely suppressed. This was also evident in the story on P. 1.

In her sixth story (P. 5) 'Gill', the girl, is represented as more humane and spiritually more developed than her father, of whom J. W. says somewhat sardonically: 'The only thing of Nature he enjoyed was trees, because it was his job to cut them down.' However, this crude fellow is made to see the error of his ways and to learn compassion. There is little doubt that in this story J. W. reveals a certain amount of priggish self-satisfaction, for the Nature-loving heroine is most likely a self-portrait. Yet, one can hardly quarrel with an ego-ideal which gives such prominence to 'kindness'. The child in the picture, reaching out for something, was seen by so many neurotic and delinquent subjects as 'doing something she is not supposed to'. J. W. makes the child in her story reach out for a sparrow which she saves from getting burned. She goes even further: she makes the child give an object lesson in kindness to her father, who profits by it. Adult standards are thus not only accepted but shown to work.

(iii) *Personality of the subject*

J. W. impressed the Experimenter as an ambitious, somewhat self-conscious child, with plenty of drive. She had a sister aged 7, and has probably had some difficulty in overcoming her own hostility and jealousy towards her. In conversation she said frankly that she preferred the company of her own friends to that of her sister. She was not keen on having any more children in the family. That she had made adult standards her own was evident from her class-teacher's report on her behaviour in school, which was excellent, although she had been 'somewhat difficult' when she was younger. J. W. was a prefect, and declared that she liked the responsibility. Her need to shine and to be noticed found expression in her confessed wish to go on the stage when she grew up. She thought her mother approved of her plan. Her headmistress described her mother as 'rather smart and shallow, showing no affection for her children'.

J. W. is an example of a 'normal' child, whose aggressive or self-assertive urges have been directed into socially approved channels. Her aggressive drive is evident in the adventurous or didactic qualities with which she endows some of the characters in her stories (Susan in P. 2, Colin in P. 3, Gill in P. 5), as well as in her achievements at school and ambitious plans for the future. She had to make the usual adjustments in her family life and was probably somewhat handicapped by the unsympathetic attitude of her mother. J. W. was by no means a personification of stolid 'normality' and had apparently taken some time to adjust to school life. Nor can it be assumed that she has always been free from conflict: two of her characters (Susan and Colin) are represented as undergoing a considerable emotional stress.

No information concerning her pre-school years was available. It was, however, clear from her stories and her behaviour at school that J. W. succeeded in making a 'good identification', which is rarely possible unless the child's relationship with its parents is predominantly good. Nor is the emphasis on 'goodness' in her stories so exaggerated as to indicate the possibility of 'overcompensation' for repressed aggression or anxiety.

A measure of imperfection is allowed to child characters and even to the parent figures. There is a predominance of pleasant themes in the stories, obtained principally by means of a 'happy ending', but unpleasant themes are not avoided. Thus, a realistic balance between 'good' and 'bad' is achieved, which can also be regarded as characteristic of 'normality'. With this goes the realistic content of the stories, none of which are fantastic, although the first one (P. 0) is obviously based on a well-known fairy-tale theme: wishing for a child and obtaining it in a miraculous way.

Although 'goodness' is explicitly preferred as a mode of behaviour, the subject's conscience is not over-severe. The lapses from 'goodness' bring their unpleasant consequences with them, yet the punishment is never so heavy as to crush the offender. J. W. can be said to have a relatively mild 'super-ego', though her standards of behaviour are high.

All her stories are well-worded, between 250-300 in length, and fairly circumstantial. They are neither extremely brief, nor too long and overburdened with irrelevant detail as are the stories of some emotionally disturbed subjects. There is little doubt that extreme brevity, as well as excessive loquacity, can be indicators of anxiety.

(iv) *Summary of discussion*

This subject's stories are characterized by certain qualities which can be described as (a) objectivity, (b) a realistic attitude to life, (c) a belief in parental affection and protection, (d) a balanced moral judgement.

These qualities were found to be characteristic of the majority of the stories composed by the normal children, although not always with the same degree of intensity and concentration as in this set of stories.

Of a very different type are the stories by a neurotic girl of about the same age.

III. STORIES BY A NEUROTIC GIRL, E. D., AGED 11 YEARS 1 MONTH, I.Q. 102

(i) *Stories as given*

Picture 0. There was once a lady named Mrs Jones who had a little girl. She was only about 4 months old and was still in her cradle. The baby was rather big and had blue eyes. It was a good girl, but sometimes cried. Mrs Jones didn't use to smack the baby when it cried, but just used to say, 'You naughty girl!' and the baby used to stop. Her father was an engineer and thought the baby was ugly because they had another little boy who he liked best. Mrs Jones did not take much notice what the father thought, but did everything she could for the baby.

Picture 1. Mr and Mrs Smith were once sitting round the fire, and the little boy John was playing with some bricks. John wasn't a bad boy, but he would play for hours with his bricks when he had the patience. When he hadn't, he was a very naughty boy. He would run upstairs and hide in his father's and mother's wardrobe and make them hunt for him. And when it was time to go to bed, his mother and father would give up looking for him after an hour or so, and he would play upstairs until it was time for his mother and father to come up to bed. And then he would rush into bed before his mother would know where he was. And when his mother went to see if he were in bed, he would be fast asleep. His father and mother were good people. They liked the little boy. He liked them—sometimes. His uncle sometimes came to see them and always brought him something.

Picture 2. One day when Jean Brown came home from school she saw her father and mother sitting on the couch. Her mother was nursing a little baby just been born. She went over to look at it and found that it was her little brother that she'd been promised. Jean wondered why her mother had been away for two weeks and found that she'd been in hospital with baby. Jean thought he was a pretty little boy and very bonny. [Exper. 'What sort of girl was Jean?'] Jean was sometimes very naughty and used to play tricks on people—grown-up people. She used to hide behind the corner and jump out on people and gave them a fright. Father and mother used to smack her sometimes and send her to bed when they found out what she had done. And then she would stop for a fortnight, and then do it again. Then they said they

wouldn't let her have the baby, so Jean promised that she would be good. [Exper. 'Whom did they like best?'] Mother and father liked them both the same. Yes, Jean kept her promise.

Picture 3. Jack was a very naughty little boy and one day played truant from school. His mother and father did not find out the first time, so Jack thought, 'I'll do it again to-morrow'. The next day he did the same. When he got home his mother asked him if he'd been to school. Jack said to her, 'Yes', telling a lie. And his mother said, 'Why have I had the school board round here, then?' So Jack said, 'I don't know, Mother', telling another lie. So his mother said, 'Oh, I'll better take you to school to-morrow to see why they came round.' Jack, being a very naughty boy, said that he wasn't well the next day. So his mother said, 'I'd better go to see your teacher by myself.' Jack said, 'Oh, Mother, stop with me, you know that I'm not well.' But his mother said, 'I won't be long.' So she went up the school and asked the teacher. So the teacher said, 'He's been away for two days, didn't you know?' His mother said, 'No, I didn't know. I sent him to school, and he said he wasn't well to-day.' So his mother went straight home, took Jack out of bed and said, 'Oh, you naughty boy', and gave him a whipping, and made him sit in a corner all day, with nothing to eat but dry bread and water. [Exper. 'Did she lock the door or just shut it?'] She locked him in so that he didn't get out. He's thinking, 'I'm a naughty boy, I won't do it again', and he was a good boy after that. [Exper. 'What about his father?'] His father didn't punish him because he's been punished.

Picture 4. Shirley was only 4 years old and was soon going to school. Her father was a boxer and he said when she got older, he would try on her. Shirley was a good little girl, really, and her mother was fond of her, and would not let any harm come to her. She told her mother what her father had said, and the mother said, 'You'd better go away. I'll pack your things up in the loft, so that your father doesn't see.' While Shirley's mother went up into the loft to pack up her things, Shirley's father came in and asked where her mother was. Shirley accidentally said, 'In the loft.' Her father said, 'Whatever is she doing up there?' So she said, 'Packing', not remembering that her father was going to hurt her when she got older. [Exper. 'Why did he want to hurt her?'] He wanted to hurt her because he didn't like Shirley, and he wanted his wife to have another baby, not Shirley. Her father went up in the loft and found his wife there. He asked, 'What are you doing up here?' So his wife says, 'Who told you I was up here?' So he says, 'Shirley'. So she said, 'Shirley is a naughty girl, I think I will let you box her.' Her father was just going to do it when her mother said, 'Oh, no, I think we'll better put her in a home than let you box her and kill her.' So Shirley was put in a home.

Picture 5. Joan was once in a garden trying to catch some butterflies, and her father came out and said, 'You naughty girl! I'll hit you next time I see you trying to catch this kind of butterfly.' Joan was asked to tea by her friend Mary, and they were both very fond of catching butterflies. Well, when Joan and Mary had their tea, they went out in the garden to play. Mary asked Joan if she would like to catch butterflies with her butterfly net, so Joan, not thinking, said 'Yes'. When it was time to go home, Joan had caught about twelve butterflies, and they were all in the net. Joan asked Mary if she could take them home with her in a jar, so Mary said 'Yes'. Just as Mary was going to get the jars, Joan's father came for her, as she was trying to catch another butterfly. So her father said, 'Oh, I told you I was going to smack you, and when you get in, I will.' Joan left her butterflies with Mary and was soon indoors and in bed, crying. This learnt Joan a lesson and she did not ever catch butterflies again. [Exper. 'What about her mother?'] Her mother was very wild with her and hit her as well, and said, 'You can't go to any party you was asked to for a month.'

(ii) *Interpretation of content*

In her first story (P. 0), E. D. represents the mother of the baby as a rather formidable person.

Mrs Jones didn't use to smack the baby when it cried, but *just used to say*, 'You naughty girl!' and the baby used to stop.

Considering that the baby in the story was said to be 'only four months old', it must have developed a very severe super-ego very early. Her mother could stop her crying by just calling her 'naughty'. As to her father, he

thought the baby was ugly because they had another little boy who he liked best. Mrs Jones... did everything she could for the baby.

The parents thus appear to be doing their duty by the baby without much love. Significant is the assumption that 'smacking' is a remedy for crying, even for a baby of four

months. Yet, though the relationship described is not a very happy one, there is no suggestion of the breaking of the bond between the parents and the child.

The second story (P. 1) describes a relatively mild state of conflict between the child and the parents. John, 'a very naughty little boy' enjoys 'playing tricks' on his parents, and usually gets away with it. His parents 'like him', but he likes them only 'sometimes'.

In the third story (P. 2) the atmosphere thickens somewhat. Joan, 'a very naughty girl', plays tricks on grown-up people which 'give them a fright'. She is only temporarily deterred by 'smacking' and 'does it again' until the parents threaten that 'they wouldn't let her have the baby'.

There is a great emphasis on the 'naughtiness' of the child-characters in both these stories, as well as on their antagonism to adults. Parents are represented chiefly as punishing and prohibiting agents. These parental functions are brought out with an astonishing degree of ruthlessness in the stories on P. 3, P. 4 and P. 5.

Jack, in the story P. 3, is 'a very naughty little boy' who is guilty of truancy and lying. His mother takes a sadistic pleasure in tracking him down, so that all his evasions are exposed in the end. He is punished with an unusual severity: dragged out of bed, whipped, and kept on bread and water the whole day, locked up and made to sit in a corner.

Shirley, in the story on P. 4, is in an even worse predicament because her 'naughtiness' is quite unpremeditated. She merely happens to blurt out the truth about her mother's whereabouts. Although the mother is described as 'fond of Shirley' and wishing to spare her the fate of becoming her father's punch-bag, the haste with which she decides to send the child away and proceeds to pack her things makes one doubt her fondness. As for the boxer-father, his promise 'to try on her' apparently constitutes a threat to life and limb, for the mother is made to say later: 'I think we'd better put her in a home than let you box her and *kill* her.' This excessively severe and unjust punishment for a slip of the tongue suggests that E. D.'s moral judgements are governed by a conscience of a primitive crudity, unable to distinguish between mischief and mistake, unless, of course, it perceives an unconscious intention behind the mistake. Shirley's mistake, however, can harm no one but herself: the parents forget their disagreement in their combined indignation at her 'naughtiness'. She is really represented as an innocent victim of parental hostility.

The girl Joan, in the story on P. 5, also suffers punishment disproportionate to her guilt. She forgets her father's arbitrary prohibition to catch butterflies, and so is spanked, put to bed and deprived of 'parties' for a month.

One would expect either of these girls to revolt against their parents' cruelty and to cry out: 'It isn't fair!' But nothing is said about their feelings, and they submit to punishment as if they felt it to be deserved. Such behaviour suggests awareness of something which is left unspecified in the stories, and is, perhaps, unrecognized by E. D. herself. The parents' hostility to the child is felt to be justifiable perhaps because of the child's unconscious hostility to the parents.

(iii) *E. D.'s personality and history*

This child was referred to the clinic for a number of symptoms. She had what were described as 'fits', when she 'turned blue in the face', stared wildly, choked, grew rigid and cried out that she was 'going to die'. She had screaming attacks when thwarted; was afraid of going upstairs alone; was generally 'difficult' and disobedient with her step-mother, and had moments of 'absent-mindedness' during which she endangered the safety

of the home by actions such as raking out burning coals on to the floor, or leaving the front door open as she went out, although there was no one in the house except herself at the time.

E. D. was an illegitimate child born to a married woman, who subsequently left her husband when E. D. was only a few months old. The husband accepted the child as his own, knowing that it was not, but could not look after her himself and had to place her with a foster-mother. From babyhood till the age of four, E. D. was with this woman, who was said to have drilled her to sit still for long stretches of time, and of whom E. D. was so afraid that she dared not touch anything or speak when she was taken visiting. At four she was placed with another foster-mother, who was kind to her, and stayed with her until her father married again and took her to live with him. E. D. was ten years old at the time and her symptoms first appeared then.

E. D.'s father was a kindly man, genuinely fond of her, but when she started having her 'fits', he threatened (on the advice of the neighbours) to thrash her. Her stepmother was a bigoted woman of very limited intelligence, indulgent in some ways, yet pettily vindictive at times and very shocked and hurt by any expression of hostility or 'ingratitude' on E. D.'s part.

E. D. had a half-brother aged 18, whom she hardly knew and who was not living at home. Whenever he came for a short stay, she was said to be particularly difficult.

This girl had had experiences during the first four years of her life which could hardly fail to arouse strong feelings of insecurity. She was so afraid of her first foster-mother that she dared not touch anything or even speak when she was taken visiting (her stepmother's report). At an age when the child first realizes its individuality and feels an urge to assert it, E. D. had had no chance of asserting herself, or when frustrated, to show her resentment. She was utterly squashed and cowed, and it seems that the only way she could deal with her aggressive impulses was by dissociating herself from them. She does so in her two last stories, in so far as she identifies herself with the two child characters in them.

The very unpleasant things which happen to the two small girls in these stories happen through no fault of their own—as, indeed, they happened to her. *They* were not 'naughty', *they* felt no hostility to their parents; it was the parents who, for no adequate reason, were hostile to the children.

With such antecedents, it is surprising that E. D. had not become a delinquent. Her father's genuine affection for her may have been the redeeming factor in the situation, for although he could not have her with him, he continued to visit her when she lived with her foster-mothers and thus kept the emotional bond between them unbroken. E. D. also knew of her mother's desertion ('She ran away with a man when I was a baby'), and this knowledge must have saved her the profoundly disturbing uncertainty concerning her parentage, which is so often associated with delinquent behaviour in adopted and institutionalized children.

During treatment interviews, while her unconscious mental attitudes were being investigated, E. D. held on to the figment of complete innocence for some weeks and asserted that everything in the garden was lovely. 'No, I'm not afraid of the dark. I'm not afraid of anything. Yes, I used to scream, but I don't now.' She denied that she had ever felt angry with her stepmother for withholding treats when she was disobedient, or that she was puzzled as to why her father had let her stay away from him for so long. Her attitude towards the therapist was guarded and hostile, but for some weeks she controlled her

hostility. In the end she had an outburst when she accused the therapist of being 'nasty' because of some remarks the latter made about E.D.'s probable jealousy of her step-mother. 'I'll tell Mummy what you've said, and then don't be surprised if you don't see me here next week!'

This outburst was precipitated by an unintentional 'slight' on the part of the therapist who kept E.D. waiting a few minutes longer for her interview. When the connexion between this and her outburst was pointed out to E.D., she replied sulkily: 'Yes, I thought you was *never* coming!'

A friendly and calm discussion of E.D.'s reactions to this episode initiated a gradual improvement in her symptoms and general behaviour. She was made conscious of her hostility, as well as the reasons for it, and was able to begin to integrate and 'sublimate' it. Her behaviour during interviews became that of a normal girl of her age: she dropped entirely the affected, childish manner of speaking and acting which she had adopted previously. Her relationship with her stepmother also improved gradually and her symptoms cleared up.

(iv) *Summary of discussion*

In addition to her particular way of dealing with her problems—by dissociating herself from them—E.D.'s stories exhibit the characteristics common to the stories of many neurotic subjects: (a) tendency to 'bad' identification (emphasis on 'naughtiness'); (b) insecurity (threats to children in her stories); (c) assumption of parental hostility; (d) sado-masochism (emphasis on inflicting and suffering pain and fear); (e) severity of the super-ego (disproportion between punishment and transgression); (f) the resulting lack of realism and objectivity.

As only one example from each group of subjects could be given in full for reasons of space, a set of stories by a delinquent boy was chosen as the most revealing of the mental attitudes characteristic of the group.

IV. STORIES BY A DELINQUENT BOY, T.S., AGED 12 YEARS 6 MONTHS,

I.Q. 87 (PROBABLY UNDERESTIMATION)

(i) *Stories as given*

Picture 0. Once upon a time there was a middle-aged woman nursing a baby in a lone cottage in the country. This woman is quite a stranger to the baby, and his father and mother just gone and left it. They really left it to die, not thinking that this woman would find it. Her husband made a small cradle for it in which it slept. The baby is a boy, but being only 18 months old, he hasn't been christened yet. She likes the baby very much and doesn't want to lose it. [Exper. 'Why did the parents leave the child?'] They really wanted a baby girl, and had been expecting the baby girl quite a long time, and were disappointed at having a boy.

Picture 1. I'm going to carry on with the story. The old lady being quite feeble was singing to the baby when her husband came home. She left the baby and they sat down by the fire, discussing things, not knowing there was someone outside the door, listening to them all the time. This man was a relative to the boy and was trying to get him away from those two people. The boy, having no toys or anything to do, used to just sit idle on the floor. This man was jealous of the two people having the baby. He was not a very good man, he was just an uncle to the boy. He just wanted to get him away and get rid of him.

Picture 2. This is going to be a different story. Once upon a time in a town up in the North country lived a young lady and a man who only had one child which was a boy five years old. The two parents were longing for a baby girl and they had one adopted to them. The baby girl was quite a pretty little thing, but the boy didn't like it at all. When the parents made a fuss, the boy felt very jealous and whenever he had a chance he used to hurt her. When the baby girl was grown up,

she left home, and the parents were very sad. In the end they lost the boy. He got so jealous of them having that girl, he couldn't bear it any longer, so he left home.

Picture 3. I'm going to carry on with the same story. When the boy was quite young, his parents used to forget about him and used to go out and lock the door behind them. The boy, feeling very sad, used to try and wreck the home for them. The parents feeling very hurt at this, tried to get rid of the boy. Knowing he had nowhere else to go, he used to go against their will and stay behind.

Picture 4. This is going to be a different story. Out in the country on a moor used to live two people, quite lonely without a child until one day they had a little baby girl. One day the girl did something wrong and her father began to hit her. The woman didn't know what to do, so she picked the baby up and tried to take it away. This the father didn't like, and so he left home, until one day he came back again when the child was grown up. The child didn't know who it was at first until it was told. When the child found out, she didn't like it at all and left home that night. [Exper. 'What was it she didn't like?'] When she found out what her father had done when she was small.

Picture 5. One day there was a man and a little girl out on the allotments, part of which he made into a flower-bed, and the little girl went round pulling flowers out of the ground. She didn't know what she was doing. The man began to hit him...her, when she ran away and told her mother what he'd done. The mother didn't like this, and so she took the child and went to live with her mother. [Exper. 'Who was the man?'] He was just a father to the child. When the child has grown up and the mother quite old, the girl went down to the allotments and was walking round when a man came up and asked what she wanted. She was with another girl, and the man chased them off and saw where they went. Then he suddenly realized that it was his own child. [Exper. 'And what did he feel about it all?'] He felt very sorry for what he'd done.

(ii) *Interpretation of content*

T.S.'s first story (P. 0) is remarkable in that it describes a most unnatural phenomenon—the desertion of a baby by its parents—in the most natural and matter-of-fact way. The parents actually hope that the baby will die, and the only reason T.S. gives for this absolute rejection is that the baby happens to be of the wrong sex—a male, like himself.

This theme is developed further in his second story (P. 1). The boy is represented as having a pretty miserable time with his adoptive parents. As T.S. introduces 'an uncle' into his story (the figure which is so often represented as benevolent by the normal subjects), an expectation is aroused for a moment that the child, rejected by the parents, is yet wanted by a kind relative. But no, this 'uncle' 'just wanted to get him away and get rid of him', because 'he was jealous of these two people having the baby'.

Although on starting his third story (P. 2) T.S. says 'This is going to be different', its theme proves to be a variation on the same subject, the breaking up of a family. The initiative of hostile action in this story is transferred to the children, who leave home, with the resulting psychological injury to the parents. Sibling jealousy is shown to be so intense that it breaks up the family.

The fourth story (P. 3) is, on T.S.'s own admission, the continuation, or rather a development, of the theme of the preceding story. It is a kind of a flash-back to the parents' earlier treatment of the boy. They had neglected him even before they adopted the baby girl. Most revealing is the description of the boy's reactions to parental neglect. 'He used to try and wreck the home for them.' They 'tried to get rid of the boy'. He 'used to go against their will and stay behind'.

May this not be a condensed representation of a conflict in the pre-delinquent's mind? 'You don't want me, but I will stay with you just to spite you. By behaving as I do, I will wreck your home.' A later stage of a final break comes in the story on P. 2—'Now I will leave you'. T.S. reversed the two stages by using the second theme first.

The fifth story (P. 4) is about another broken home. In this family the father is hostile to the child and leaves home because the mother resists him. When he returns years later

the child objects to him, and leaves home herself. It looks as if parents and children must part in anger.

This theme is reversed in the sixth story (P 5): the mother leaves home and takes the child away because the husband punishes it. In both these stories the child divides, instead of uniting the parents.

(iii) *T.S.'s personality and history*

This boy was not the writer's patient; he was interviewed at a boarding school and no complete social history was available for comparison with his responses to the Family Attitudes Test. The main facts about him, however, were known, and were given to the writer by his headmaster.

The most unusual recurrence of the same theme in all his stories—that of the break-up of a family—is a thinly disguised projection of his own experiences: his mother deserted his father and married again. T.S. had a half-sister aged three. Both families came from the skilled artisan class. The mother had the custody of T.S., but his father was trying to have this decision reversed by a court of law. The headmaster did not think that he had any real affection for T.S., but merely wanted to take him away from his former wife in order 'to spite her'. T.S. had taken to pilfering since his mother's second marriage and was so difficult to manage at home, that a boarding school had to be found for him.

The dominant note of hopelessness which pervades T.S.'s stories might have led one to expect to find him a depressed, conspicuously unhappy youngster. He was, on the contrary, full of vitality, bright-eyed, unselfconscious and friendly. His contact with the experimenter was good, on a superficial level. In no way could he be described externally as a 'typical delinquent'. Yet, his attitude of mind was typical of a group, the members of which, in distinction from the normal and the neurotic, so often fail to relate themselves both to their families and to other persons with whom they come into contact. Moreover, this lack of relatedness is not merely accepted, but is treated as final and irremediable: parents reject their children utterly ('want to get rid of them'), whereas children leave the home as a matter of course because of their dissatisfaction with the parents. Neither make any attempt to influence the other party either by good or evil means. The detached and matter-of-fact manner in which T.S. described these rather unusual happenings was in itself quite remarkable.

Doubtless, the significance of these responses might be 'explained away' by pointing out that, after all, this boy's home had been broken, that a feud was going on between his parents, and that he knew he was a mere pawn in the game. The answer to this simplified explanation would be that T.S. might have responded to these happenings in a variety of ways. The broken home does not necessarily involve the severance of the emotional bond between the child and its parents. Moreover, the Carr Saunders' study⁽¹⁾ showed that the incidence of broken homes was only relatively more frequent in the delinquent group than in the control (normal) group of the same social milieu, and that 68% of the delinquents came from normally constituted homes (only 12% fewer than of the controls).

It is thus difficult to avoid the inference that there were certain additional factors in T.S.'s early experiences, which, combined with the facts described above, were responsible for the psychological attitudes reflected in his stories, as well as for his delinquency. His parents' mutual antagonism may have made it impossible for him to establish a strong emotional bond with either of them, through early division of loyalties.

(iv) Summary of discussion

One of the outstanding features of these stories is (a) their emphasis on detachment from the family. This distinguishes them not only from the stories by the normal, but also from those by neurotic subjects. Another characteristic distinguishing them from the stories of the neurotic group is (b) their relative objectivity, which may play the part of a defence mechanism. They share with the stories of the neurotic group (c) their complete lack of realism (for in modern society parents do not commonly abandon their unwanted children to die, as they did in Ancient Greece, nor do they turn them out of the house), and (d) their exceptionally vivid sado-masochistic fantasies. There is an apparent difference in (e) the matter-of-fact acceptance of cruelty, which suggests the working of a primitive super-ego and of guilt feelings which had been deeply repressed.

These features were found to be characteristic of many stories composed by the delinquent subjects, though of course not all of them were found in the same set of stories. For instance, the theme of parental desertion or rejection occurs frequently in the stories by delinquent girls, whereas sado-masochistic fantasies are less frequent and intense than in the stories by delinquent boys.

V. GENERAL CONCLUSIONS

(i) As has been shown in Part I of this paper, the Test of Family Attitudes brought out highly significant differences in the responses of a group of normal children on the one hand, and of the neurotic and delinquent children on the other, to specially designed pictures, representing certain common situations between adults and children. The three complete sets of stories, one from each group, discussed in this paper, illustrate the quality of these differences. Both the quantitative and qualitative analysis of the data obtained by this Test suggest the existence of seriously disturbed emotional relationships in the families of the delinquent and the neurotic, whereas no such disturbance appears to exist in the families of the normal.

(ii) No such clear-cut difference emerged between the responses of the neurotic on the one hand, and of the delinquent on the other, probably because the majority of the delinquent subjects in this group were also suffering from neurotic symptoms. Certain differences, however, did appear: thus, the delinquents' responses suggested an unusual measure of detachment from the family, whereas the responses of the neurotic subjects indicated a close emotional relationship with the family, frequently of a sado-masochistic character.

(iii) In the responses of the normal subjects there were indications of strong self-assertive trends, of conflicts with parental authority, of ambivalent attitudes towards parents and siblings. These attitudes and emotions, however, appear to have been integrated by the normal children, with the resulting balanced and predominantly constructive general attitude to reality.

(iv) No such integration of conflicting trends had apparently taken place in the case of the delinquent and the neurotic subjects, who remain in a state of conflict and confusion reflected in their attitudes to people and life in general.

(v) From the material produced by these subjects it is justifiable to conclude that early relationships between children and their parents are largely responsible for the failure of the children to integrate their self-assertive drives into a generally constructive attitude towards their social and material environment. (This was confirmed by the examination

of the social histories of the subjects.) When these relationships were satisfactory, as appears to be the case with normal subjects, self-assertion assumed creative, and not destructive forms, as it did in the case of the delinquent and neurotic children. In the case of delinquents, an early severance of the emotional bond between mother and child suggests itself as a decisive factor.

(vi) The content of the stories produced by the three groups of subjects indicated that the unconscious strivings of the delinquent child are predominantly centrifugal—directed away from the family, whereas the strivings of the neurotic child are chiefly centripetal—directed towards the family. The strivings of the normal child are balanced between these two extremes in a state of relative equilibrium, for he is neither excessively involved in the family's emotional tangles, like the neurotic child, nor prematurely detached and isolated from the family, like the delinquent.

(vii) These observations suggest that the aims of treatment in cases of delinquency and of neurosis may lie in opposite directions: that whereas the treatment of the delinquent should be directed to strengthening, or building up a satisfactory child-parent (or parent-substitute) relationship, the treatment of the neurotic should be directed to weakening the bond which has proved too restrictive for further development. This might be achieved chiefly through a new, more balanced and mature relationship with the therapist, followed by the formation of other relationships.

They also indicate that an indispensable condition of normal emotional development, which results in the integration of conflicting impulses and emotions, is the correct adjustment of the rate of psychological weaning to the disposition and family environment of each individual child. Artificial acceleration, as well as holding up, of this process are liable to bring about emotional disturbances of varying degrees of seriousness.

(viii) The scope of this study has been restricted to the investigation of the 'Family Attitudes' but, in the course of it, several other aspects emerged which indicated the possibilities of the Test as a diagnostic instrument. Thus various personality traits of the subjects were brought out in their responses: 'anxious', 'obsessional', 'extraverted', 'hysterical', 'manic'. The type of conflict from which the subject was suffering: 'Oedipus', 'inferiority', 'unwanted because of wrong sex', and his ways of dealing with it: by dissociation, by overcompensation, by aggressive, sado-masochistic fantasies, were often made clear by his responses.

(ix) These conclusions are not intended to present the problems of aggression, of normal development, delinquency and neurosis in unduly simplified forms, to ignore the individual differences in innate endowment which would affect the children's responses to parental attitudes, or to underestimate a variety of contributory factors which would make each case distinct in some respects from all others. The intention of the writer is merely to offer objective evidence for something which has been for some years a matter for speculation and conjecture, and to provide stimulus for further research.

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THE SEX FACTOR IN THE CATTELL INTELLIGENCE TESTS, SCALE III

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I. *Introduction* (p. 186). II. *Statistical analyses* (pp. 186–188). III. *Two possible interpretations* (pp. 188–189). IV. *Verbal weighting as an hypothesis* (pp. 189–191). V. *Conclusion* (pp. 191–192). *References* (p. 192).

I. INTRODUCTION

The Scale III is one of a series of four intelligence tests constructed by Dr R. B. Cattell. Prof. Cattell's aim was to construct a number of scales capable of testing the whole range of intellectual development, from that of the normal child of 4 years to that of the gifted adult. Scale III of the series is for testing mental ages of 15 years and upwards; that is, for adults of normal and supra-normal ability. The scale is composed of six highly valid subtests, namely, Synonyms, Classification, Opposites, Analogies, Completion and Inferences giving 127 pass or fail items in all. Cattell (5*a*, 7*a*) states that Scale III is composed of 151 pass or fail items; this is incorrect. The scale, in point of fact, gives 127 pass or fail items which provide a raw score of 151 if all are answered correctly.

In designing the tests, Cattell(6) adopted the following aims and guiding principles (a) 'To include only those types of test already proved to be most highly saturated with "g"'. (b) To expect only a bare minimum of (general) knowledge on the part of the subject as a working basis for the mental operations dealt with by the test. (c) To assume a much more limited vocabulary than has hitherto been demanded in most intelligence tests. . . (d) To diminish the effects of verbal facility, as far as is compatible with retaining high "g" saturation.' This recognizes Alexander's(1) contention that verbal tests of 'g' are, in fact, a measure of 'g' and 'v'. To reduce that portion of the score which might be due to a 'v' factor, Cattell limits the amount of vocabulary knowledge required and converts some of the more difficult Classification and Analogies items into non-verbal form.

The present article will discuss one noticeable feature of Cattell's work—the fact that he makes no allowance for sex differences either in central tendency or dispersion. As the test is predominantly verbal, one might expect sex differences in both these directions. For example, Conklin & Freeman(8) indicate that 'practically all results point to a small consistent superiority of females over males in linguistic ability'. Concerning sex differences in dispersion Terman(20) points out that 'of 33 comparisons based on such standardized tests as CAVD, NIT, the Pressey group test, and the 1916 Stanford-Binet, 29 showed greater variability for males. Perhaps the best data of all come from the two Scottish surveys, both of which show the s.d. of I.Q. distribution about one point higher for boys'. Cattell does not mention that either of these factors needed special consideration in the construction of Scale III.

II. STATISTICAL ANALYSES

Scale III has been administered in the Department of Education, Auckland University College, from 1943 to 1948, inclusive. All of the prescribed methods of administration have been followed with literal exactness, and the I.O.'s established in the manner suggested

Cattell. From the scores of 641 subjects tested, statistics have been calculated and conclusions deduced.

A simple analysis of the chronological age ranges of the subjects reveals the following means:

Males	Form A	22 years 4 months	Form B	23 years 11 months
Females	Form A	19 years 9 months	Form B	20 years 3 months

It can be seen that the chronological ages of the males are higher than those of the females. However, this does not imply a correspondingly higher mental age. Cattell^(5b) indicates that the normal child's intelligence ceases to grow after 16 years, but he makes allowance for small increments up to 19 years in the case of the very able child. Other psychologists substantiate this viewpoint. Terman^(21a) considers that intelligence ceases to grow at approximately 16 years; Woodworth⁽²⁴⁾ places the limit at somewhere between 15 and 16 years; Murphy^(16a) believes that it is possible for intelligence to increase up to about 20 years; Pintner⁽¹⁷⁾ cautiously states that the point of cessation may lie anywhere between 14 and 22 years, while Guilford^(10a) shows that beyond the age of 15 years the increase in measurable intelligence is very small. With reference to this investigation, it means that, as both groups have probably reached their maximal level of intelligence, they can be compared on a mental age basis, disregarding differences in chronological age. This supports the hypothesis that the rate of growth of intelligence might vary between the sexes. It should be noted that only two males of the total 641 cases have chronological ages below 16 years. Although there is a possibility that slight increments will be made to their mental ages, the effect on the group would be insignificant and has been disregarded. The I.Q. scores for the investigation have been assembled in frequency distribution form and are shown in Table 1. A class interval of five units has been used.

Table 1. *Cattell Intelligence Tests (1943-8): distribution of I.Q. scores*

Class interval	Form A		Form B	
	Females (f)	Males (f)	Females (f)	Males (f)
180-184	—	2	—	—
175-179	1	2	1	—
170-174	1	—	—	5
165-169	1	3	4	—
160-164	11	3	6	1
155-159	13	8	4	8
150-154	25	15	28	23
145-149	31	38	29	42
140-144	11	20	16	19
135-139	19	20	19	19
130-134	14	12	19	22
125-129	10	9	16	38
120-124	—	3	4	12
115-119	—	5	3	9
110-114	—	1	1	5
105-109	—	2	1	5
100-104	—	—	1	—
95-99	—	—	—	1

The four frequency distributions given in Table 1 show a reasonable approximation to normality. It is assumed that a larger number of cases would make the distributions fit more exactly the symmetrical probability curve.

Each distribution shows slight skewing effects; this is to be expected because few, if any, are ever completely symmetrical. The sort of asymmetry shown is interesting; in all cases

it is a negative skewedness, indicating a more spread-out distribution towards the lower end of the curve. This is the kind of asymmetry one would expect with the Cattell Intelligence Tests because of the ‘ceiling’ effect which seems to operate when testing gifted adults.

The I.Q. scores are treated in considerable detail in an endeavour to establish exact ranges within which the true means lie. The means for each sample tested between 1943 and 1948 (female and male) are given, and then four principal means (Forms A and B for male and female) have been calculated from the raw scores. It was considered that this was more objective than calculating the mean of the means because the raw scores were not available. For these principal means, ranges have been established within which it is assumed the means of the population lie. Use has been made of the formula⁽¹³⁾

$$\tilde{\sigma}_{\bar{x}} = \frac{sx}{\sqrt{(N-1)}}$$

for establishing these ranges, and 5% has been adopted as the ‘level of confidence’ for the investigation. This implies that 95% of the cases are covered in a normal curve by the range ± 1.96 S.D.⁽¹³⁾ All of this information is shown in Table 2. From this table it can be seen that all the female samples, without exception, have mean I.Q. scores which are higher than those of the male samples. In some cases the differences are not great, but when the results are expressed in combined form there is little doubt that, with respect to these samples and tests, some kind of sex difference is operating.

Table 2. *Cattell Intelligence Tests (1943-8): mean I.Q. scores*

	Females		Males	
	N	Mean	N	Mean
		Form A		
1943	30	147.83	23	146.26
1943	39	146.67	27	146.41
1945	49	146.1	50	141.86
1946	19	141.89	43	138.56
Mean (μ)		146.06 $\pm$ 1.78		142.43 $\pm$ 2.14
Mean (μ)		144.28 to 147.84		140.29 to 144.57
Form B				
1943	30	145.3	23	143.7
1943	31	145.29	27	143.3
1944	43	139.0	60	135.23
1946	18	133.83	54	131.98
1948	30	142.9	45	139.36
Mean (μ)		141.68 $\pm$ 2.0		137.25 $\pm$ 1.9
Mean (μ)		139.68 to 143.68		135.35 to 139.15

III. TWO POSSIBLE INTERPRETATIONS

Two possible determinants can be suggested at this point. In the first case, the difference might be due to the fact that the females are, on the average, brighter than the males in the Department of Education. Evidence to hand, however, does not suggest that this is so. Of course, one cannot be emphatic on the point because the Cattell Intelligence Tests claim to measure predominantly ‘g’ just as many other verbal tests do. But if the females have a significant superiority in ‘g’ (as distinct from ‘v’), then it should be possible to detect this superiority by reference to their examination results. Yet, on the contrary, no such superiority is evident.

If examination results are any criterion of essential intelligence, or 'g' tested under load Spearman would phrase it, then there is some indication to suggest that the males are at least equal to the females if not superior to them. This hypothesis is based on the following information. Of the Education students in this survey who took the annual examinations¹ between 1943 and 1947, 22.8% of the males received first-class passes, 42.1% received second-class passes and 35.1% received third-class passes. Of the females, 14.3% obtained first-class passes, 32.1% obtained second-class passes and 53.6% obtained third-class passes.² Other things being equal, the female performance is hardly consistent with its assumed superiority on the Cattell Intelligence Test.

A further check on this point was made by correlating the male and female final degree marks with their I.Q.'s as determined by the Cattell Intelligence Tests, Scale IIIB. The coefficients obtained by using the Ruch-Stoddard correlation chart were $r=0.29$ (P.E. 0.04) for the males, and $r=0.19$ (P.E. 0.05) for the females. Reading from Lindquist's^(12 c) tables, which show the minimum value of r that is required for significance at the various levels, it can be seen that the male correlation falls above the value required for the 1% level of confidence, and the female correlation falls at the value established for the 2% level of confidence. From this double check it can be concluded that the correlations obtained, though small, are significant for both male and female samples.

Because of the smallness of the two correlations, it would be unwise to deduce too much from them, but the fact that the male correlation is higher than the female correlation is possibly illustrative of the contention (examined below) that the higher female score on the Cattell is due to a greater verbal facility, rather than to a superiority in 'g'.

One must be cautious in interpreting these data, however, because there is no guarantee that motivation, interest and effort are the same for both sexes. Males may do better in examinations because they have future vocations to consider, whereas this may be a less important consideration with females.

IV. VERBAL WEIGHTING AS AN HYPOTHESIS

One second possibility is that females are favoured by the Cattell Intelligence Tests because of these tests' marked verbal weighting. A study of the literature by Goodenough⁽⁹⁾, Murphy^(16 b) and Whipple⁽²³⁾ suggests that this is a possible explanation.

A glance at the test will show the extent to which Cattell Intelligence is dependent on vocabulary. Many psychologists have illustrated this relationship. For instance, Spearman^(21 b) claimed that over a series of surveys, correlations between vocabulary and intelligence ranged from 0.65 to 0.91, with an average of 0.81. Again, by using a method of weighted scoring for each word, and judging the quality of each response in accordance with the developmental level of the subject, Helen J. Green^(21 b) obtained a correlation of 0.84 with the first 50 words on the old Binet scale. The dependence of general intelligence tests on verbal facility is further indicated by Shakow & Goldman⁽¹⁹⁾, and by Weisenburg, et al. & McBride⁽²²⁾. Finally, although D. O. Hebb⁽¹¹⁾ and Ballard⁽²⁾ are critical, there is

Note. The annual examinations are periodic checks throughout the year on all phases of the student's work. At the degree examinations at the end of the year, the mean marks obtained were 58.5 and 59.4 for men and women respectively. Using Lindquist's^(12a, b) procedures, the difference between these mean marks yields a t value of 0.947. This is not significant at even the 20% level of confidence; consequently the difference has to be rejected as due to chance rather than real factors.

¹ Calculated from the Auckland University College Calendars, 1944-8.

a large amount of evidence to hand confirming the opinion that facility in verbal expression is an indication of mental ability. It is on this principle that the Cattell Intelligence Tests are constructed. Accordingly, it is surprising to find that Cattell has not considered the possibility of sex differences in any of his publications on the subject.

Table 2 illustrates the difference between the combined mean scores. On Form A it is 3.63 i.q. points in favour of the females, and on Form B, the superiority is 4.43 i.q. points in the same direction. Later in this article, a simple statistical analysis will be made of these differences to determine their significance.

Attention should also be drawn to the fact that the mean scores for Form B (both male and female) are some five points lower than the means for Form A. This confirms Cattell's (7) statement that 'Scale IIIB seems to be... harder at the higher levels than Scale IIIA'.

Standard deviations for the eighteen samples are shown in Table 3. In addition, four principal standard deviations have been assessed directly from the raw scores. For each of these, ranges have been established within which it is assumed the standard deviations of the population lie. Use has been made of the formula

$$\tilde{\sigma}_{\sigma} = 0.707 \tilde{\sigma}_{\bar{x}}$$

for establishing the ranges⁽¹³⁾ and 5% has once again been adopted as the 'level of confidence' for the investigation.

Table 3. *Cattell Intelligence Tests (1943-8): standard deviations*

	Females		Males	
	N	S.D.	N	S.D.
		Form A		
1943	30	9.26	23	15.47
1943	39	9.96	27	14.6
1945	49	12.01	50	10.64
1946	19	8.52	43	11.76
Sigma (σ)		10.58 $\pm$ 1.25		13.03 $\pm$ 1.51
Sigma (σ)		9.33 to 11.83		11.52 to 14.54
		Form B		
1943	30	11.11	23	14.01
1943	31	10.93	27	14.1
1944	43	13.1	60	13.0
1946	18	13.35	54	14.44
1948	30	10.7	45	10.93
Sigma (σ)		12.48 $\pm$ 1.41		13.96 $\pm$ 1.35
Sigma (σ)		11.07 to 13.89		12.61 to 15.31

An examination of Table 3 indicates a marked tendency towards greater male variation. Two of the samples (Form A, 1945; and Form B, 1944) are exceptions to this trend, but when the scores are expressed in combined form there is no question about the wider dispersion in favour of the males. This could be due to fortuitous selective factors or to the male tendency to show wider variation on tests of intelligence. In conjunction with the evidence submitted by McNemar⁽¹⁵⁾, Terman⁽²⁰⁾, Scheinfeld^(18a) and Macmeecken⁽¹⁴⁾, the latter seems to be a likely explanation.

The next step is to determine the significance of the differences between the mean female and male i.q. scores. For this purpose use has been made of the procedures suggested by Lindquist^(12a), and his formula for the 't' test,

$$t = \frac{M_1 - M_2}{\sqrt{\left[\frac{N_1\sigma_1^2 + N_2\sigma_2^2}{N_1 + N_2 - 2} \right] \left(\frac{N_1 + N_2}{N_1 N_2} \right)}}$$

as been applied with $(N_1 + N_2 - 2)$ degrees of freedom^(12a). The significant level for each 't' value has been obtained from Fisher's statistical tables^(12b). The results are shown in table 4.

Table 4. *Cattell Intelligence Tests (1943-8): differences between female and male means: significance determined by the 't' test*

	Form A	Form B
Difference means	3.63	4.43
't'	2.59	3.16
Significant level	1%	1%

With Form A the difference is significant at the 1% level, indicating that it can be treated with confidence. With Form B the 't' value almost falls within the 0.1% level and is well above the minimum value of significance at the 1% level. This means that both forms show sex differences which could scarcely be the result of chance factors. The explanation which appears most likely in view of the evidence offered is the verbal nature of the tests. It assists the females to obtain higher relative scores than the males.

As a further check on the content of Scale III, an analysis has been made of the six sub-tests, namely Synonyms, Classification, Opposites, Analogies, Completion and Inferences.

A simple breakdown of the scale administered in 1948 yields the mean scores for the two sexes as shown in Table 5.

Table 5. *Cattell Scale IIIB (1948): mean scores on sub-tests*

	Synonyms	Classification	Opposites	Analogies	Completion	Inferences
Females	17.03	15.2	16.5	14.9	19.9	13.9
Males	16.24	14.4	15.11	14.98	19.18	15.13

From Table 5 it can be seen that the females are slightly superior on the Synonyms, Classification, Opposites and Completion tests. As these are largely dependent on vocabulary, and in view of what Goodenough⁽⁹⁾, Murphy^(16b) and Whipple⁽²³⁾ have stated, such result was not entirely unexpected. On the Analogies test, the mean scores are practically identical. The Inferences test, however, which is essentially one of reasoning, showed a more appreciable difference in favour of the males. As a possible explanation one may concur with Guilford^(10b). She emphasizes that males are superior on tests involving sustained logical work. Other psychologists who agree with this viewpoint are Cameron⁽⁴⁾, Lerman⁽²⁰⁾, Scheinfeld^(18b) and Brooks & Shaffer⁽³⁾. The male superiority on the Inferences test is not, however, sufficiently large to offset the over-all female superiority on the markedly verbal portions of the scale.

V. CONCLUSION

In concluding this analysis of the Cattell Scale III Intelligence Tests, a summary of the salient points can be made. As far as the investigation is concerned, there is a significant difference in favour of the females between the average male and female I.Q. scores. It has been suggested that this may be due to the verbal nature of the tests, and some evidence has been assembled in support of this contention. The dispersion of scores from the mean is greater in the case of the males, and on this point as well, the investigation is in conformity with the views of most authorities on the subject. In all, it appears that sex

differences in central tendency and dispersion can be expected, and must be allowed for, when testing gifted adults on the Cattell Scale III.

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PUBLICATIONS RECENTLY RECEIVED

Tensions Affecting International Understanding. A Survey of Research. By OTTO KLINEBERG. Social Science Research Council, 230, Park Avenue, New York 17. 1950. Pp. xi+227. Cloth \$2.25, paper \$1.75.

Then, in 1947, UNESCO decided that one of its main tasks should consist in the attempt to investigate scientifically the 'tensions affecting international understanding' (with the resultant implementation in what has since become generally known as the 'Tensions Project'), it was very properly proposed that as a preliminary step an attempt should be made to bring together the results of previous investigations in the field 'so as to make possible some kind of inventory of the knowledge we possess, of the techniques which have been applied and of the problems which can most profitably be studied'. This 'Survey of Research' by the first Director of the 'Project' is the result of this attempt, and it can be said at once that it is difficult to see how the work could have been better done. True, the field covered is rather narrower than that of the Project itself, inasmuch as the influence of 'population' and 'immigration' problems and of 'modern technology' are not included in the survey, but it deals thoroughly and insightfully with the first four main heads of the Project, i.e. (1) the distinctive character of the various national cultures; (2) the ideas held by the people of one nation about their own and other nations; (3) the methods of changing mental attitudes; and (4) the influences which make for international understanding or aggressive nationality. The very considerable number of previous studies in these fields can be realized from the fact that well over 300 names figure in the 'Name Index'. Under each of the four main headings the work is not merely surveyed but, within the possible space limits, investigated, while at the same time both the defects and limitations of past research and the vistas opened for future investigations are constantly pointed out, so that the book is no mere catalogue of methods and results but throughout affords stimulating and thought-provoking reading on what is perhaps at the moment the most important of all the tasks which confront the social psychologist. It shows that, small as their achievements still are, when contrasted with the magnitude and urgency of the problems involved, psychologists and other social scientists have certainly not been altogether oblivious of their great responsibilities in this field and have at least pointed out a number of promising directions in which their disciplines can help humanity to deal with the many difficulties arising from its division into social groups with divergent traditions, forms of organization and goals.

In general, Dr Klineberg is convinced of the necessity for a simultaneous approach to any particular problem by a variety of techniques and for the implementation of research on parallel lines in a variety of countries (with due allowance, of course, for modifications necessitated by differences of culture). Of the various conclusions tentatively drawn from existing researches we may perhaps pick out the one that points to the desirability of international and inter-racial contacts between persons of (and under conditions implying) equal social status, if such contacts are to lead to greater sympathy and understanding. The book ends with a brief résumé of the further work in progress or in contemplation under the Tensions Project. In general, this is a volume which deserves, we should perhaps say demands, most careful study not only by the social psychologist but by all who are concerned with the welfare of mankind as a whole and the avoidance of further inter-group conflicts threatening the very existence of our civilization

J. C. FLUGEL

Social Psychology: an Integrative Interpretation. By S. STANSFELD SARGENT. New York: Ronald Press. 1950. Pp. viii+519. \$4.50.

As a text-book this compares very favourably with present alternatives. Its parts comprise: Socialization of the Individual; Dynamics of Social Behaviour; The Patterning of Social Behaviour; Understanding Social Phenomena. Its aim is to achieve 'a broadening of specialized viewpoints' and the 'attainment of better integration'. The book is a satisfying one to read. It has a balance and perspective arising from equally thorough acquaintance with contemporary developments and the history of social psychology. Whether the views referred to are those of Tarde, Ross and McDougall or of E. B. Holt, Tolman, Freud and Margaret Mead, they are expounded and discussed with admirable clarity and an equally admirable unwillingness to regard as absurd or unworthy of attention the serious thought of able investigators.

Another noticeable feature is comprehensiveness and the skilful use of factual material as illustration. The author is himself obviously an able theorist, and the book is none the less critical for its inclusiveness and objectivity. The presentation is that of a teacher fully acquainted with the problem of forging relations between technical language and plain English. More use could have been made of diagrams, the introduction is perhaps unnecessarily long and some attention might have been paid to the work of (for example) Anna Freud, Flugel and Fenichel, in the discussion of psychological mechanisms. Yet the merits of the book are fundamental and its defects of a minor order. The unmistakable impression is conveyed to the reader of this book that social psychology has content, and as a subject has something to convey other than high-sounding commonplaces phrased in rigid, technical jargon. The author writes as one more concerned with defining this field and advancing its boundaries, than with the upholding of any extreme positions either of theory or of terminology. For students this is a readable and informative text. Teachers and theorists of social psychology will also acquire much that is valuable from the mode of exposition, general attitudes and broad perspective which characterize the book.

PETER MCKELLAR

Selected Readings in Social Psychology. Ed. by STEUART HENDERSON BRITT. New York: Rinehart. 1950. Pp. xvi + 509. \$2.00.

This volume, prepared inexpensively 'primarily for undergraduate students', contains fifty readings for use 'in conjunction with any text-book in Social Psychology'. A table is included giving reference to relevant pages of eleven such commonly-used texts. Readings are brief but extensive in scope. Though the emphasis is upon recent psychological studies, contributions from 'other social sciences' are also included. Main sections, with illustrative examples from each, are: Social Psychology and its Methods (e.g. Kimball Young on Statistics); Biological and Social Foundations of Behaviour (e.g. Klineberg on 'Race'); Some Individual Factors of Social Adjustment (e.g. E. R. Guthrie on Motivation); Behaviour in the Presence of Others (e.g. Cantril's Martian Invasion Panic study); Social Psychology of Institutions (e.g. Lewin on Democracy); Social Conflicts (e.g. P. M. A. Linebarger on Radio Warfare). It is perhaps to be regretted that the editor has chosen neither to reproduce original texts exactly, nor to indicate omissions in some standardized way. Nevertheless, the book fulfils its intended function of providing suitable supplementary reading for the student, and has additional reference uses for the University teacher. Overlap with Newcomb and Hartley's *Readings in Social Psychology* (1947) is slight, and this is supplementary rather than an alternative to the earlier book.

P. MCK.

The Influence of the Group on the Judgements of Children. By RUTH W. BERENDA. New York: Kings Crown Press (London: Geoffrey Cumberlege). 1950. Pp. xvi + 88. 18s. net.

This book is a clear and comprehensive account of four experiments on the influence of the group, under differing conditions, on children's judgements concerning simple visual material. There is a short historical introduction. The experiments all involved judgements by schoolchildren of the length of lines.

In the first experiment eight of the 'brightest' children in a class were coached by the experimenter to give the same judgement, sometimes right sometimes wrong, as to which of several lines was equal to a given standard line; a ninth child who was then added to the group heard the prearranged 'judgements' of the others, and the effect of this unanimous group opinion on his own judgement was assessed. The result of this experiment showed a fairly marked tendency to follow the group when it was wrong. This was particularly clear among the younger children, of whom only 5% gave completely independent answers throughout as compared with 20% of the older children. The children appear to have been put under severe pressure by the members of the 'majority group', who entered into the spirit of the experiment to a very marked degree. In the second experiment the child did a similar task, but in the presence of his teacher only, she giving the wrong answers instead of the group. In sharp contrast to the results of the first experiment, her wrong answers had very little influence on the child's judgements. The author takes this to mean that in the first experiment the child's membership of the group was threatened by disagreement, whereas the teacher is not strictly a member of the group so that the child though puzzled has less 'need' to conform.

In the third experiment the subjects were a minority group of eight children, all sitting at the back of the room, who were asked to estimate the length of a given line. The other members of the class, the 'majority', gave prearranged judgements which all overestimated the length of the line by varying amounts. Here again there was 'following' of the majority by the minority, and especially by the younger children.

the older children were more aware than the younger of being part of a minority group (they spoke of 'being at the back') and this seemed to enable them to withstand majority pressure to some extent. The minority group, of whatever age, consistently gave estimates that were less extreme than those of the majority'. It was also found that the 'following' was greater on the more difficult and ambiguous items. This finding was confirmed by a fourth experiment in which a clearly structured task (comparing a line with a standard and saying whether it was longer, shorter or equal in length) showed no 'following' of the majority by the minority, and, in fact, even a slight tendency to be independent and wrong.

The author says that these results might seem to support the classical hypothesis that man is the victim of the group; however, she is at some pains to point out that when 'following' occurred it was not blind but might have been a deliberate choice, and that such responses were accompanied by emotional disturbance, bewilderment and insecurity. These subjective data were obtained from interviews with each of the 'minority' children after the experiments described above. The real value of this study seems to be the attention which the author has paid to the qualitative aspects of the experiment (while maintaining statistically valid quantitative control); previous work in this field had often ignored the very important question of the nature of the subjective experience of the person who follows the group. The weakness of the study seems to lie in the fact that the limited nature of the material used inevitably limits the application of the results; particularly with the younger children the visual material may have had very little importance compared with the group situation. Possibly insufficient attention had been drawn to the fact that what was sometimes happening was that the child, presented with relatively meaningless material, did not see something he did not see in order to remain unmolested by his very real social environment. This is a possibility which the earlier workers do not seem to have envisaged and to which this author draws perhaps too little direct attention.

M.M.L

Introduction to Social Anthropology. By RALPH PIDDINGTON. Vol. 1. Edinburgh: Oliver and Boyd. 1950. Pp. xxvi + 442; 21 figures, 6 plates, 4 maps. 25s. net.

American text-books on anthropology are legion. This is largely due to the fact that anthropology has been a reputable teaching subject in American universities for fifty years. In this country there was, until 1932, no chair in any branch of the subject at any university except London (at the London School of Economics), and the handful of professional anthropologists was almost wholly occupied in field research. But anthropology has now at length been admitted to the select circle of respectable academic disciplines. The publication of Prof. Piddington's text-book marks this important stage in the development of British anthropology. Until now the standard British text-book has been Tylor's *Primitive Culture*, first published in 1871. Prof. Piddington's book shows how much the subject has advanced since then, especially in the last twenty-five years. It is a tribute, also, to the inspiration and leadership of the late Prof. Malinowski in British social anthropology. For it is based uncompromisingly on Malinowski's 'functional' theory of culture and on the field researches of students trained in this point of view. The summaries of these researches used so effectively in this book show what a remarkably high standard they had reached before Malinowski's death.

Prof. Piddington's functionalist presentation results in an emphasis on the rationality of primitive customs and institutions when seen in their specific context and in relation to the hierarchy of 'needs' postulated by Malinowski. This enables Prof. Piddington to dispose summarily of a number of stereotyped fallacies such as those of 'primitive communism' and of inherent race superiority. But it also leads him into over-simplification and occasionally to the labelling of what a mature student would regard as naïve platitudes. Prof. Piddington admits this, but seems to think that a didactic and even dogmatic presentation of a consistent scheme of thought is essential for the elementary student for whom this book is designed.

Beginning with a brief and clear statement of the aims and methods of social anthropology with which most British anthropologists will agree, the book goes on to outline the functional approach. This is followed by 'A Cook's Tour of Primitive Peoples'. The reader is taken in a very broad sweep over the five continents, given a sketch of the distribution of primitive peoples and short accounts of some representative cultures. This section is rather flat, except for the account of the Karadjeri, which, significantly, is derived from Prof. Piddington's own field work. Next follows the most valuable part of the book, the chapters on social organization. These are built up around definitions of current technical terms like 'clan', 'kinship', 'bride-price'. This section shows that the study of social organization is now a sufficiently precise and well documented department of social anthropology to make a systematic statement of principles possible.

The theoretical core of the book, a fairly full presentation of Malinowski's theory of culture as an adaptive

mechanism, uniquely human, with the general function of satisfying the needs of man, comes next. The 'primary needs' (food, sex, etc.), 'derived needs' (communication, etc.) and 'integrative needs' (for confidence, art, etc.) are listed and the institutional systems they give rise to discussed. The final chapters exemplify the use of the theory in cultural analysis. Food and wealth, for instance, form the starting-point for a discussion of primitive economics. These chapters are excellently documented and will be interesting and stimulating both to young students and to laymen. They make primitive social life look as common-sensible and intelligible as a game. The function of religion, for instance, is said to be the provision of psychological safeguards against failure due to lack of scientific and technical knowledge. That such generalizations are too specious and largely tautologous; that this is in fact the crucial defect of 'functionalism'; these matters are not seriously discussed. It is to be hoped that Prof. Piddington will consider them in the second volume of this admirable text-book, which is presumably intended for the more advanced student. Excellent bibliographies, illustrations and diagrams enhance the usefulness of this book. M. FORTES

The Muria and their Ghotul. By VERRIER ELWIN. Bombay: Oxford University Press (Indian Branch). 1948. Pp. xxx+730. 42s. net.

Dr Elwin's report on the *ghotul*, or village dormitory for children of both sexes, found among the Muria (a group of aboriginal peoples in Central India) is a monumental study of one institution in its cultural and historical setting. Its comprehensiveness and penetration into the intimate working of a primitive institution make it a noteworthy anthropological achievement, and it contains material of very great interest for social psychology and the psychology of adolescence. The central feature of the *ghotul* is its regulated introduction of adolescents to sexual activity; in some *ghotuls* the boy and girl partners are paired off for the whole of their *ghotul* life, in others a change of sexual partner is enjoined. But it is evident that in the *ghotul* of the more primitive villages there is nothing of the emotional and social atmosphere which we associate with sexual 'promiscuity' or 'licence'. There is considerable training and discipline in general social behaviour; and sexual activity, although freely engaged in, is governed by well-kept rules. Dr Elwin is frankly partisan in defending the *ghotul* against the conventional missionary viewpoint, and he sees its vindication partly in the high standard of sexual morality maintained by the Muria after marriage. His great affection for the Muria was a condition of the success of his work, and the extreme thoroughness of his factual reporting on all aspects of Muria culture minimizes the danger of one-sidedness in his study. Detailed studies of dancing, songs, games and recreations, of discipline and justice, and of hygiene and personal adornment in the *ghotul* are included. With the whole background of Muria life, economic, social and religious, from infancy to death, filled in fully enough to set the particular institution in its cultural perspective, this study reaches a standard that will not often be surpassed.

Children of the People. By DOROTHEA LEIGHTON and CLYDE KLUCKHOLM. Harvard University Press (London: Geoffrey Cumberlege). 1948. Pp. xvi+277. 32s. 6d. net.

This very thorough study of the upbringing of children among the Navaho Indians and of its effects on the personality of the adults is recognized to be a classic in the field of work overlapping social psychology and anthropology. About half the book is taken up by very detailed descriptive accounts of the usages, customs and institutions that govern child care, from earliest infancy to adulthood and marriage, including the schooling that brings the child into effective contact with white American culture. The emphasis given to the psychological implications of the customs inevitably introduces the problem of subjective interpretation by the observers in a more acute form than was usual in the older anthropological studies. Verbatim accounts given by Navaho children and adults go some way towards validating the observers' impressions, but the problem remains. The second part of the book reports the result of psychological tests of over 200 Navaho children of school age, the tests including non-verbal tests of intelligence, orally given questionnaires on values, and projective tests. The results are reported briefly; on the whole they appear to be consistent with the general view of the culture which was given in the first part, and to some extent help to confirm the observers' interpretations. One is left with the impression that the book represents a high-water mark of its particular method of studying a culture, and future advances may take the form of an even greater control of the subjective element in such field-studies.

De L'esprit des Masses. By PAUL REIWALD. Neuchâtel: Delachaux and Niestle. 1949. Pp. 378. 9.50 f.

'Massification'—to use Prof. Reiwald's unpalatable term—threatens to submerge individuality, and at the same time to offer insidious relief to its depleted victims by providing something with which they can identify themselves so that each 'gagne comme être collectif ce qu'il perd comme individu'. Decentralization and small-scale societies are the cure. Social psychologists should provide the prescription. Such is the theme of Prof. Reiwald's Introduction and Conclusion. His own contribution to the problem—as presented in this book—is to collect together an anthology of views on 'group psychology' in the widest sense of the expression. Biologists—Espinass and Alverdes, for example—sociologists, psychologists, politicians, poets and novelists—anyone who has had anything to say about 'crowds' or 'masses'—are copiously quoted. In chapter after chapter they pass before us: Le Bon, Trotter, McDougall, Durkheim, Freud, Tolstoy, Lenin, Hitler, etc., etc. We are told what they said, and all but the politically obnoxious are given a pat on the back and told to do a little better. The result is a handy book of reference, but it hardly lives up to its sub-title '*Traité de Psychologie Collective*'.

After complaining, justly enough, that essential distinctions between the direct impression of the crowd and the indirect influence of the 'mass' are not made, and that the organized group is often muddled up with the unorganized aggregate, Prof. Reiwald does nothing whatever towards clearing up the mess. However, he has produced a useful source-book for anyone who is prepared to do it for him. W.J.H.S.

Human Desires and their Fulfilment. By K. W. MONSARRAT. University Press of Liverpool. 1950. Pp. xii+270. 12s. 6d. net

Mr Monsarrat has produced an ingenious series of analogies in terms of which he argues that the biological evidence which tends to make us accept the 'naturalness' of a war of every man against every man is only partial. Symbiosis need not be predatory, and indeed a general equilibrium from which further progress can take place requires some sort of imperative adjustment rather than an armed truce. At the human level this seems to imply collectivism by consent, and only where the social order is of this pattern can our desires and aspirations be fulfilled.

A book of this kind presents peculiar difficulties to the reviewer. Its subject-matter does not fall within any existing science nor has it affiliations with any philosophical school. In other words, there are no ready-made canons in terms of which it can be judged. Were it a bad book one might dismiss it as a product of leisured eccentricity, but no such course is open here. Mr Monsarrat has much to say that is both shrewd and suggestive, and anyone who feels disposed to relate biology to the wider problems of metaphysics and morals will find his pages well worth while.

JAMES DREVER

Personality. By RAYMOND B. CATTELL. New York and London: McGraw-Hill. 1950. Pp. xii+689. 47s. net.

This 'systematic, theoretical and factual' study of personality is written as a text-book for the undergraduate student of psychology in the belief that 'personality study is the natural hub upon which all more specialized sectors of psychology turn'. It assumes that the student has already taken an elementary course in general psychology, and, as great stress is laid on the statistical approach to personality study, it is clearly desirable that the student should also already know something of statistics and factor analysis. The book is arranged in an orderly manner, and divides neatly into six parts: (1) The description and measurement of personality; (2) Psychodynamics; (3) Psychosomatics; (4) Personality and the cultural matrix; (5) The abnormal and unadapted personality; (6) The life stages in personality. A final chapter deals with the principles of personality formation, which it endeavours to explain in seventeen laws.

To cover so wide a field systematically, theoretically and factually is an ambitious programme for which very few psychologists indeed are equipped. Nevertheless, the task of synthesizing the data and theories of psychology into some sort of synoptic view is one that must from time to time be undertaken, and Catell, who has contributed prolifically to various fields of psychology has many of the necessary qualifications for the job, including a lively appreciation of the need for 'precise methodology and critical evaluation of concepts'. We should, therefore, be grateful to him for undertaking so gigantic a task. As a book of reference Catell's *Personality* should be useful to most students and teachers of psychology. It contains, too, numerous pointers for research, and some of the author's vigorously stated and somewhat controversial opinions should awaken stimulating discussion.

It is perhaps as a text-book that this publication is least satisfactory. It revolves too much around Cattell's own contributions to psychology. A good text-book, like a good bread, should not be too highly seasoned. This book is highly seasoned throughout by its author's special flavourings. The whole of the first section of the book closely follows, in a mercifully simplified form, the elaborate factorial analyses of Cattell's earlier work *The Description and Measurement of Personality* (which appears to have become in the short interval since its publication in 1946 'the standard index'). The second part on psychodynamics is based on the Cattellian concepts of 'ergs' and 'metanergs' (a modernized version of McDougall's hormic theory), and in the fourth part we are introduced to group 'syntalities'. In all but one of the twenty-one chapters of the book the name of Cattell reverberates in the bibliographies. There is surely a difference between putting forward novel formulations in articles and monographs for the consideration of the experts, and the inclusion of such formulations in a text-book for absorption by the undergraduate student as 'standard' doctrine.

A second defect is the excess of systematization that runs throughout the book. Cattell is an incorrigible pigeon-holer and schematizer! We are introduced to complex schemas of so-called 'dynamic crossroads', lists of interpersonal attitude situations, lists of principles of personality-culture pattern interactions, catalogues of traits, tables of laws, and, above all, numerous and bewildering sets of factors, which according to Cattell are supposed to be 'real unitary influences'. Over and above the basic source traits of personality we have attitude factors, electroencephalogram factors, family syntality factors, culture pattern factors, and the suggestion that a great many other things need factor analysing from visceral data to religious beliefs. We cannot help asking whether these involved classifications and abstractions are firmly enough based. For they are dangerous things. Does not the history of science at least strongly suggest that there is no more serious obstacle to progress than the rigid schematizations of an accepted frame of reference? Is there not an overwhelming case for keeping the concepts of psychology loosely fluid at a time when the foundations of the subject are by no means beyond question? Do we really want our students to learn off by heart, as students will to impress their examiners, these catalogues and lists and sets of laws? I certainly would far rather that my pupils ended their study of personality by reading the wistful last chapter of Murphy's treatise, the chapter entitled 'The Sceptical Psychologist', with its 'recognition of the fundamental limitations of the whole present system of conceptions', than by repeating Cattell's concluding words, 'The principles of personality formation and operation have been incorporated, as far as dynamic traits are concerned, in seventeen laws as follows....'

L.S.H.

Projective Techniques: A Dynamic Approach to the Study of Personality. By JOHN ELDERKIN BELL. New York, London, Toronto: Longmans, Green and Co. 1948. Pp. xvi + 533. 21s. net.

There will presumably be many compendia dealing with projective techniques. This one takes the story up to 1948, and with the help of full bibliographies provides a very comprehensive survey of the field. The bibliography on the Rorschach technique alone includes 798 items. Other chapters deal with word association and related techniques, the T.A.T. and similar tests, Rosenzweig's picture-frustration test, the Szondi test, expressive movement and graphology, play, psychodrama, and so on. The book not only describes the principles of the tests but gives an introduction to their use, adequate at least for elementary purposes. No very detailed critical survey is offered, but the limitations as well as the usefulness of the tests are recognized, and the blend of serious appreciation with reasonable caution makes the book a good introduction to the subject for students.

Fundamentals of Psycho Analysis. By FRANZ ALEXANDER. London: George Allen and Unwin. 1949. Pp. 312. 16s. net.

In his preface the author states that this first of two volumes has been prepared from the notes of his introductory lectures delivered during fifteen years to the students of the Institute of Psycho Analysis in Chicago. The second volume is to be entitled *Psychosomatic Medicine*, and the two books together are to serve instead of a third edition of the earlier book which was intended chiefly for doctors and entitled *The Medical Value of Psycho Analysis*.

Although it has this background the present work is likely to be of most interest not to doctors nor to budding psycho-analysts. It will appeal to those who work in fields already influenced by psycho-analytic thinking and where its findings are being applied. For Dr Alexander abandons the historical presentation

al in introductions to psycho-analysis and makes an approach from the direction of general science. In so he has to encounter the difficulties of assimilating psycho-analytic theory at this stage in its development to more universal concepts, without sacrificing basic psycho-analytic principles and without coming philosophical. This more universal approach will be most helpful to psychologists, sociologists, cultural anthropologists, who will be glad of a stimulating book of limited size coming from an analyst Dr Alexander's experience.

For the ordinary doctor who has less familiarity with the subject the book is not a good introduction. The style will be too telegraphic and the concepts esoteric. Psycho-analysts, too, will miss elements which they might regard as fundamental—for the book expressly does not attempt to be comprehensive and is to be compared with Fenichel's *Outline of Psycho Analysis*. MARTIN JAMES

Freud or Jung. By EDWARD GLOVER. London: George Allen and Unwin. 1950. Pp. 207. 15s. net.

It is not, as the unwary reader might suppose, an impartial exposition of the practices and theories of Freud and Jung, but written from the point of view of a strict Freudian, who also regards eclecticism as an impossible position, believing that the Freudian theory is so interwoven that to lift any of its elements out is to remove them from the context which alone gives them meaning. At the least it is to change their meaning and therefore to make them something different.

In the Introduction, Dr Glover explains why he thinks such a book necessary. It is first to make an assessment of the present position of psycho-analysis, and secondly to clear away anew all the obscurities and absurdities that have gathered about the name of Freud, often produced by those who do not take the trouble to understand him or to realize the differences between Freud and Jung. The greatest obscenity-charge, however, is Jung himself, whose name has in certain quarters become exalted at the expense of Freud, and, according to Glover, often by very dubious means. Freud has become the bogey man and Jung saviour of modern mankind.

The next three chapters deal with Mental Structure, Mental Energy and Mental Mechanisms respectively, expounded by Freud and by Jung. By the time the reader has reached chapter IV, he wonders how it is that if Jung is really so absurd as appears, he can have any followers at all, and, as a corollary, why this book need be written. The fact remains that he has followers, and this Glover has failed to make understandable because he is much more interested in showing up the confusion and contradictoriness of Jungian theory, and the injustice he has brought on Freud, than any possible merits it may have.

He has read widely in Jungian literature, and he does try hard to be fair to Jung, but he cannot help exasperation breaking through into emotionally coloured language, which may make the book more lively and amusing for the reader, if it does not annoy him, but which rather tends to mar the argument. He realizes this himself, and in chapter XI he guards himself by saying that sustained and partisan attacks may arouse the reader's sympathy for the ideas which are being criticized.

In the opinion of many people Freudianism, too, has its difficulties, contradictions and obscurities. Glover, however, feels strongly that we must now make a stand, or what Freud has discovered of the unconscious, which illumines so many complex problems of the human personality, hitherto completely obscure, and what others have confirmed with painful effort, may be glossed over, blotted out, and have to be re-acquired with equal trouble at some indefinite future time. Towards this end Jung has been one of the greatest offenders for this is Glover's conclusion: that Jung is not a psychologist of the unconscious, but a rival theory to that of Freud, which might have some constructive value, but a conscious (or pseudo-conscious) psychologist in masquerade. Glover calls him a pre-Freudian conscious psychologist, but by his showing he is a post-Freudian in that he has tried to undo every step which Freud has taken forward, and he incorporates into his theory a number of Freudian words and phrases on the same principle as new religions incorporate festivals and customs of religions existing before them.

For the reader who wants a clear account of Freudian psychology in contrast to that of Jung, this book will be valuable; to the Jungian it will appear totally futile. The reviewers, however, sympathize with the author's difficulties with Jung, for they themselves have studied Jung's pages diligently in vain efforts to discover what they mean. However, Dr Glover's quarrel with Jung is mainly that Jung has gathered to himself for his theory an aura of respectability and high-mindedness, largely by a vague and mystical way of writing, which, when scrutinized, turns out to be a mass of confused thinking and of contradictions. For example, 'his ideas on individuation and the stages of life'... are 'a mish-mash of oriental philosophy and a bowdlerized psycho-biology' (p. 134). 'Jung was indeed the first and greatest Bowdler in the annals of clinical psychology' (p. 110).

To conclude, while the first seven chapters are the main substance of the book, the reader will find interesting discussions of the Freudian and Jungian attitudes to other subjects, such as sociology, religion and art, together with the eclectic's dilemma, in the remaining four chapters.

A.S.P. and R.W.

Analytical Psychology and the English Mind, and Other Papers. By H. G. BAYNES. With a Foreword by C. G. JUNG. London: Methuen. 1950. Pp. x+244. 18s. net.

This posthumous collection of papers, mostly published before but several rather inaccessibly, gives a good impression of Dr Baynes's outlook and the strength and limitations of his work in theoretical psychology. His conviction of the potential abundance of life, in itself therapeutic, makes itself clearly felt, as does his richly suggestive interest in myth (e.g. in the paper on 'The Psychological Origins of Divine Kingship') and his finely intuitive use of patients' dreams. The limitations appear in the usual Jungian weakness of omitting clear statements on theoretical issues, and in some apparent restriction of interest to the more prosperous strata of society.

The title essay was intended for a continental audience and stresses the possibility of regarding the King as a symbol of the people, and the 'gentleman' as a means of disseminating more widely the royal *mana*. In this view the 'gentleman' idea expresses the feeling of belongingness, first with the limited *gens* and later with the whole human family. 'The concept of Tao is the expression of the introverted vision of the East that is based upon the ultimate fact of being. The concept of the gentleman is the expression of the extraverted vision of the West that is based upon the ultimate fact of relatedness.'

Taken as a whole, the book well represents the Jungian side of the antithesis that Dr Baynes expresses when he writes: 'For Freud, psychology is primarily the study of psychic mechanisms. For Jung it is the understanding of psychic values.'

On Not Being Able to Paint. By JOANNA FIELD. London: Heinemann. 1950. Pp. 172. With illustrations by the author. 10s. 6d. net.

In an earlier book, *A Life of One's Own*, the author described how she developed a better understanding of living by observing closely and recording the experiences which brought her the most happiness. In this book she studies the part which can be played by creative artistic experience in furthering this understanding. Dissatisfied with the artificiality of the results which she achieved by copying from nature or following a preconceived design, she allowed the 'eye to find out what it liked', the drawing to develop without conscious direction. The results, though difficult at first to interpret, seemed to have an inner meaning, to be capable of representing ideas and feelings of great importance to her which could emerge in no other way.

The particular value of the experience was that it seemed to transcend that dichotomy between the inner and the outer, the objective reality and the subjective intuition, the logical thought and the living imagination. This division, which the child must develop as he learns to differentiate between the inner self and the outer environment, is enormously emphasized by the activities of modern civilized life, and by a predominantly verbal education, until logical planning and purposiveness tend to become completely divorced from the inner imaginative vision, leading to aridity of conscious thought and suppressed hatred of the outer world which is so different from the imaginative wish. Yet we cannot identify the two, either by altering the outer world to fit our pleasure, or by altering ourselves to fit a planned ideal. But neither must we keep them rigidly segregated; we must learn to vivify the repetitiveness of external reality by inter-relating with it the ever-changing inner flux, hence to produce new and integrated experiences. We can will to plan the framework of observation and action within which the creative forces can spontaneously function.

Now the artist and the poet are intuitively aware of these necessities to their creative work. For the less gifted, there is always the danger either of rejecting the discipline of logical analytic thought, or of breaking up and destroying the inner imaginative wholeness. Joanna Field suggests that both child and adult can learn through spontaneous artistic production to achieve the integration of the two—the imaginative 'dream' worked out within the objective limitations imposed by external observation and the manipulation of the medium. She goes further to suggest, though not to discuss in detail, how such an integration may also be achieved in social living, by clear awareness of the separateness and difference of the self from others, and by willingness to receive from society what it can give, and alternately to give to society.

tive energies which it requires. But it seems a little doubtful if it would be possible to gain sufficient understanding of the self to achieve integration without first undergoing a personal analysis. It is not possible in a review to give more than a brief outline of the thesis which the author has founded. There is little doubt that many people are coming to realize that our psychological understanding will be incomplete until it is extended to cover the vitally important inner imaginative life. The nature of this cannot be analysed in terms of verbal logic; at the moment it can be set forth only in poetic metaphor and visual imagery. Joanna Field has described one method of studying it; but many other ways must be devised and explored before a real understanding can be achieved. M.D.V.

Perspectives in Neuropsychiatry. Essays presented to Prof. F. L. Golla by past pupils and associates. Edited by DEREK RICHTER. London: H. K. Lewis and Co. Ltd. 1950. Pp. 236. 15s. net.

'Perspective' has been defined as 'the relation in which the parts of a subject are viewed by the mind'. We accept this definition, it is plain that a collective volume will display nearly as many 'perspectives' as its authors. Certainly it is doubtful whether the present book can be said to provide a balanced perspective of its subject as a whole. Thus Cybernetics, with which three contributors are largely occupied, is rarely seen out of its true perspective; clinical neurology, on the other hand, which many would regard as the foundation of neuropsychiatry, scarcely stands in perspective at all. None the less, some error of balance is inevitable in assembling a *Festschrift*, and Dr Richter deserves warm congratulations on the high quality of so many of his contributions. The tribute to Prof Golla is both welcome and well-deserved and is endorsed by all who believe, with Kraepelin, that psychiatry should be firmly grounded in the natural sciences.

The three main 'perspectives' represented in this volume are anatomical, physiological and psychiatric. The first is admirably drawn by Prof. de Gros Clark and Prof. Alfred Meyer, both of whom write with knowledge, competence and authority and both of whom give the psychologist much to think about. Thus Prof. de Gros Clark's insistence upon the importance of patterns of nervous connexion in relation to function will cause us to approach the old problems of cerebral localization from a new viewpoint. Again, Prof. Meyer's finding that personality change after leucotomy is related to the amount, rather than to the position or type, of pre-frontal cortex isolated, may link up in a hitherto unexpected way with the findings of animal workers, such as Lashley and his pupils. These two anatomical discussions are models of lucid, rigorous thinking and testify to a regard for empirical fact and a disdain of rash hypothesis that are unfortunately not always displayed by the contributors to this volume.

The neurophysiological perspective is well conceived by Dr Denis Hill, who writes on clinical electroencephalography with his customary caution and good sense and by Drs Richter, Hemphill and Reiss on the biochemical and endocrinological aspects of psychiatry. Dr Ashby gives us a neat account of his 'neostat' in an essay rather misleadingly entitled 'The Cerebral Mechanisms of Intelligent Behaviour'. It would be better called 'Cybernetics for the Beginner'. Dr Grey Walter tells us something of his most interesting recent work on the induction of bizarre subjective states through rhythmic visual stimulation. His account, though, would be even more impressive if detailed facts and figures were provided and the message less oracular. In the more specifically psychological sphere, 'perspectives' appear to be sadly lacking. Though Dr Russell Brain contributes a thoughtful chapter on the concept of the 'schema' in neurology and psychiatry. This provides an unusually lucid discussion of a concept which is by no means foreign to British psychologists and is of particular value in stressing the Kantian background of Head's notion. It is a pity, however, that the author does not concern himself with Wolters's later writings on the subject or indicate its place in Pick's writings. Also of interest to psychologists is Dr Eliot Slater's workmanlike account of statistics in psychiatry and his encouraging assessment of future trends in this field.

In concluding essays, by Sir Norwood East, Dr Sargant and Dr Gjessing, are more narrowly concerned with professional and administrative aspects of psychiatry. It is gratifying to note that Dr Sargant, in his account of 'Aims and Methods of Treatment', addresses the very proper plea to his colleagues that a psychiatrist should remain a good all-round doctor. 'There is still so much treatment and research to be done on these patients of ours', he writes, 'that one is worried to find psychiatry invading an ever-growing field of psychosomatic medicine and adding to its activities selection of personnel, advising on sale, marriage, industry and the prevention of wars.' It is a tribute to Dr Golla's scientific integrity and teaching that none of the contributors to this volume tells us how to reform the delinquent or pierce the

The Diagnosis of Hysteria. By D. W. ABSE. Bristol: John Wright and Sons, Ltd. 1950. Pp. 112. 8s. 6d. net.

There is nothing new in this short book intended for medical students, D.P.M. candidates and those preparing for the M.D. in Psychological Medicine in India.

Twenty-four case histories, occupying more than half the total space, are presented. The author draws on British and Indian men and women, civilian and war-neuroses. There are tables showing the differences in hysterical symptomatology between Indian and British service personnel. Broadly speaking Indian symptomatology is reminiscent of European fashions around the turn of the century. There is no investigation into the reasons for these interesting differences.

Twenty-two pages are devoted to differentiation from organic disease, eleven from Schizophrenia and none from Anxiety States and Psychopathy. In addition to this omission, some at least of the traits believed to be commonly encountered in Hysteria (p. 61) are frequently found in other forms of mental illness. For these reasons the student may be in danger of conceiving Hysteria to be even more protean than the author probably intends.

G.A.

Handbook of Psychological Research on the Rat. By N. L. MUNN. Cambridge, Mass.: Houghton Mifflin Company. 1950. Pp. xxiv + 598. 56s. net.

We have more precise knowledge concerning the behaviour of laboratory rats than almost any other living organism. During the last half century more and more psychologists have employed the animal as a subject for research and the results have been brilliantly summarized by Dr Munn in the present volume. The extent of the field he has had to cover in order to produce this remarkably complete survey can be estimated from the 2500 references given in the bibliography. That Dr Munn's scholarship is deep as well as wide is shown by the detailed and lucid accounts he gives of innumerable investigations—so detailed that future students of the subject may be tempted to think that they are relieved of the necessity of consulting the original papers. Moreover, this volume is not only the most complete summary we have of rat behaviour; it is also an excellent introduction to the experimental approach in psychology. The complex experiments which Dr Munn reports, and their relevance to general theories, are models of research, which workers in other branches of psychology will aspire to emulate. Here is contemporary psychology at its most scientific stage of development.

A. R. JONCKHEERE

Colors and their Character: A Psychological Study. By B. J. KOUWER. The Hague: Martinus Nijhoff. 1949. Pp. viii + 191. 6 guilders.

This monograph is devoted to the exploration of the phenomenal nature of colour—the total impression produced by colours, including not only the primary sensations, but also the associations, ideas, feelings and synaesthetic impression to which they give rise. An experimental study was made by drawing up a list of 116 nouns and adjectives, mainly conceptual in connotation, and instructing subjects to allocate them to one or other of ten colours—the colours being named, not shown as such. In addition, the subjects had to say why they thought certain words matched certain colours, describe their conceptions of the colours and say which they preferred. There appeared to be a fair agreement on the characteristics of certain colours: Black as sorrowful, white as pure and peaceful, grey as dull and lifeless, red as vital and passionate, blue as the calm infinity of distance, and so on. It seems that these relationships between colours and concepts cannot be explained rationally; they are due in part to conventional associations, culturally determined, but also in part to fundamental pre-rational experiences of an emotional and symbolic nature. The many individual divergences may mark projections of individual peculiarities in interior attitude towards the world. Colour preferences indicate possible points of development of the personality; antipathetic colours to impediments and disturbances. Examples of character analysis by use of this method are given; and it seems quite possible that it might be valuable as a projective personality test.

There is a good bibliography of more than 200 titles.

Color Psychology and Color Therapy. By FABER BIRREN. New York and London: McGraw-Hill Book Co., Inc. 1950. Pp. ix + 284. 42s. 6d.

The author of this book appears to have kept a 'scrap-book' into which he has pasted every reference that has come across to the word 'colour'. He has then roughly shuffled the items, with some overlap, a

ly described them in categories such as The Physics of Light, Colour Vision, Colour Reactions and Perceptions, Synaesthesia, Colour Symbolism, The [alleged] Therapy of Colour. It is clear that this occupation has interested him profoundly; but it is doubtful if its results will interest anyone else. M.D.V.

Harvard List of Books in Psychology. Compiled and Annotated by the Psychologists in Harvard University. Cambridge (Mass.): Harvard University Press (London: Geoffrey Cumberlege). 1949. Pp. x+77. Price 6s. 6d. net.

A competent selection from the terrifying array of books now available to students of psychology is here. The Harvard List has the advantage of having been compiled by a committee with numerically equal representation from the Department of Psychology and the Department of Social Relations in Harvard University and is therefore wide in range. It lists 612 books, arranged under well-considered headings, which in themselves give the student a useful bird's-eye view of the main divisions of the subject. The brief annotations are mainly factual but occasionally give some useful indications of the main points of strength and weakness of the books. Inevitably there is evidence, both in the selection and in the annotations, of personal predilections which many psychologists would challenge; the annotation on Freud's work is notably one-sided, and the sections on the psychology of religion and psychic research are weak. All the books listed appear to have been written in English or to be available in translation. The List includes books published up to 1948.

Delinquency and Human Nature. By D. H. STOTT. Dunfermline: Carnegie United Kingdom Trust. 1950. Pp. viii + 460.

Dr D. H. Stott's book, the report of an 'on the job' research into the causes of delinquency (commissioned by the Carnegie Trust and carried out whilst the author was virtually a member of the staff of a Senior Approved School), has already created considerable interest on its private circulation. It is now generally available.

The title prepares us for something quite remarkable and the book itself does not disappoint—here is something less than a study of the causes of delinquency directly related to a theory of human nature boldly put; an explanation of behaviour in terms of two basic needs, self-realization and the achievement of isolation of fellowship.

The main exposition follows closely on that of Healy and Bronner and of Bowlby; the delinquent break-down is an escape from an emotional situation which, for the particular individual with the various conditions of his background, negates such needs and becomes at least temporarily unbearable. This is illustrated in each of his 102 cases; the traditional characteristics of the 'bad' home repeat themselves unendingly—jealousy, quarrelling, sibling-preference, rejection, actual desertion—with one new variant, evacuation and its consequences. The boys react quite simply to these intolerable situations by 'avoidance-excitement', the pursuit of activities which, by their risky or distracting nature, enable them to escape from their wholly inadequate affectional relationships, or by 'withdrawal' which is generally recognized as a neurotic reaction, although its consequences are not so likely to be delinquent. The bulk of the book is taken up with detailed case histories which are inevitably rather tedious to read, but their inclusion is essential if the author is to make out his case as strongly as he desires—or, as he would put it, the evidence demands; time and again he has snatched almost with relief at a simple spoilt boy explanation or even at mental defect, only to find on deeper study that the case runs true to type in terms of a classical reaction to emotional deprivation.

Dr Stott acknowledges his debt to Burt for his schooling in method, but he has some other characteristics of the author of *The Young Delinquent* in addition: a very readable style and an acquaintance with the history and culture of our heritage not always apparent in the writings of other psychologists.

His book is not the last word on either of its subjects. We still need to know much more about what constitutes a 'good' home, and Dr Stott will have to enter the arena to defend his general theories of delinquency, consciousness and motivation, as, to do him justice, he seems fully prepared to do. With the light of this study added to what has gone before there should now be little argument on the factors which influence an outbreak of delinquency, and when this knowledge has been suitably conveyed to parents, teachers, social workers and social scientists they should be able to do something about it. Psychologists will read and critically study this book in its present form, but they will be well advised to have it bound before they do so; the paper covers are quite incapable of holding together its 460 pages.

J. M. GIBBS

The Psychological Aspects of Child Development. By SUSAN ISAACS. London: Evans Br
1950. Pp. 46. 2s. 6d. net.

The reappearance of this booklet by Susan Isaacs is most welcome. It is an account of modern knowledge of child development before adolescence, and although extremely condensed, it in no way loses the soundness and clarity we associate with its author's longer works. The interdependence of all aspects of the child's growth is stressed, and a most balanced view is taken of their relative importance in the stress incident to childhood. The section on the unconscious mental life is particularly good. There is a useful bibliography, and the pamphlet will undoubtedly be valued by students and parents both as an introduction to the subject and as a summary.

A. M. SILV

The Educational Development of Children. By WILLIAM GLASSEY and EDWARD J. WEER
London: London University Press. 1950. Pp. xiii + 247. 8s. 6d. net.

The teacher in every type of school should find valuable guidance in this book for the keeping of his records. It is perhaps a pity that so much statistical information should be given as early as the second chapter, it may discourage the non-mathematically minded from further study of the book. It would have seemed that a few simple definitions might have sufficed at this stage, with further information in a final chapter for those who were minded to acquire it.

Apart from this one defect, the whole book is well balanced. The suggested form of record card seems to cover all necessary information concerning the child's own general mental ability, special aptitudes and interests and his attainments in various fields along with relevant information about his environment without the extreme complications of some forms of record at present in use.

In particular, the book should help to clarify the teacher's mind on the object and usefulness of record-keeping and show him just what can and cannot be expected of standardized tests at the present time. The chapter on General Mental Ability seemed to me especially valuable in this respect.

M. A. MELLO

Psychology for Living. By H. SORENSSEN and M. MALM. London: McGraw-Hill. 1950.
Pp. x + 638. 18s. net.

This book is intended to provide a course in Psychology for high-school students in America, 'to help them to understand human behaviour'. It is well produced, with various 'study aids' in the form of questions, directions, exercises, a glossary and book lists. It is designed to 'appeal to a teen age level' and nearly every point is illustrated with either a photograph or an anecdote—often both. Many of the latter have a moral flavour more frequently associated with the writings of Louisa M. Alcott and her contemporaries than with current psychological thought. The book is not a text in any strict sense of the word; it would seem to be rather a series of directions about how to achieve 'success' and 'popularity', employing some psychological concepts. Its value is restricted by the cultural limits which this orientation suggests; within those limits it is probably adequate.

M.M.

FOURTEENTH INTERNATIONAL CONGRESS OF PSYCHOLOGY, STOCKHOLM

16-21 JULY 1951

Members' attention is drawn to the Second Notice printed below. Copies of this, and of the appropriate application forms, have been made available to Members of the British Psychological Society. Others who have not received such copies or those who want extra ones can obtain them from:

MISS G. BLUNT, *Secretary*,
BRITISH PSYCHOLOGICAL SOCIETY,
TAVISTOCK HOUSE,
LONDON, W.C. 1.

SECOND NOTICE

Applications for membership in the Congress are to be submitted on Form 1 and sent in to the Secretariat at the earliest possible date.

The titles of proposed lectures are to be submitted to the Congress Committee not later than 15 March. It would greatly facilitate the organizational work of the Congress if these lectures were submitted at the earliest possible date and if a summary of from 300 to 500 words could be in the hands of the Committee by 15 May. These summaries are to form the basis of the publication of the 'Proceedings of the Congress'. The duration of the sectional lectures is to be limited to 15 minutes.

Requests for hotel reservations are to be made *through the American Express Co.*, which is to be the official travel agency of the Congress, by filling in Form 2 and forwarding it to the nearest American Express Co. office. This office is also at the entire disposal of prospective participants with regard to travel arrangements, visas, currency regulations, etc.

The Congress fee is 50 Swedish Crowns for Members and 25 Swedish Crowns for Associates. The fee is payable to the cashier of the Congress, Mr Nils Öström, c/o the Secretariat, or to the Congress post office account No. 450650, Stockholm.

There will be an informal reception on Sunday, 15 July, at 9.00 p.m.

The opening meeting will take place on Monday, 16 July, at 11.00 a.m.

Projectors for slides and films will be at the Members' disposal.

There will be an opportunity for Members to demonstrate technical equipment and trained assistants will be at their disposal. Members are cautioned to advise the Congress Secretariat well in advance of their intention to demonstrate technical equipment, in order that the necessary customs formalities can be attended to.

The Members of the Permanent Committee will hold a first meeting in the afternoon of 15 July.

Additional copies of this notice can be secured from the Congress Secretariat.

On behalf of the National Committee
DAVID KATZ

Secretariat:
PSYCHOLOGICAL INSTITUTE
SERVATORIEGATAN 8
STOCKHOLM

